

U.S. Vatican Envoy Won't Participate In Waldheim Events

Reuters
ROME — The United States said Monday that the head of its diplomatic mission to the Vatican would not attend any ceremonies connected with the visit there Thursday of President Kurt Waldheim of Austria.

Earlier Monday, the Austrian government named a retired Swiss professor to head an international commission to investigate Mr. Waldheim's past as a Nazi officer, as criticism of his scheduled meeting with Pope John Paul II increased.

The Arab League and the Palestine Liberation Organization, in statements in Rome, condemned Israeli and Jewish criticism of the pope's decision to meet Mr. Waldheim.

Austria has protested the Israeli condemnation of the visit as "interference" in its affairs.

Prime Minister Yitzhak Shamir of Israel said Sunday that the pope's decision to grant an audience to Mr. Waldheim would serve

to legitimize the Austrian president's alleged war crimes.

The United States was reported by Jewish sources to have ordered its representative to the Vatican to boycott events involving Mr. Waldheim's visit to the Holy See.

In Rome, a spokesman for the U.S. diplomatic mission to the Vatican told Reuters that the U.S. representative to the Vatican, Frank Shakespeare, would be out of town on Thursday. The spokesman said the mission would be represented by its acting chief.

Meanwhile, a group of five associations of Italian former resistance fighters and victims of Nazism criticized the pope's decision to meet with Mr. Waldheim.

"It cannot and must not be forgotten that a heavy shadow continues to bear down on the figure of Kurt Waldheim regarding his past as an officer in the German Army," the associations said.

Jewish groups have charged that Mr. Waldheim, a former UN secretary-general, covered up a wartime past in which he acted as a senior intelligence officer for German Army units in the Balkans involved in the deportation of thousands of Greeks, Yugoslavs and Jews.

The United States has placed Mr. Waldheim on its "watch list" of persons barred from the country because of alleged criminal activities in World War II.

In Vienna, Foreign Minister Alois Mock of Austria said that Hans Rudolf Kurz, 72, had agreed to head the commission to investigate Mr. Waldheim's past.

Mr. Kurz, who taught military history at the University of Bern, said in Bern that he hoped to select commission members from Yugoslavia, Greece, West Germany, Belgium, Britain, the United States and Israel. He declined to give any names. But he told Swiss radio that a prominent high-ranking Israeli officer would be invited to join.

Muhammed Dura, head of the Arab League mission in Rome, described criticism of Mr. Waldheim's visit as "racist" and said it was characterized by "evident confusion between religion and politics."

American Jewish leaders called on Friday for an urgent meeting with the pope to discuss the invitation to Mr. Waldheim and held out the prospect of not meeting with the pontiff when he visits the United States in September. John A. Fusco is scheduled to meet with Jewish leaders in Miami.

"I don't think Puerto Rico is willing to accept one more ruler, one more shipment of drugs, one more terrorist act," said Federal Judge Jose A. Fusté before passing sentence. "We are fed up."

Kiosk

3 Are Sentenced In San Juan Fire

SAN JUAN, Puerto Rico (AP) — Three former hotel employees who pleaded guilty to arson in the New Year's Eve fire that killed 97 at the Dupont Plaza Hotel were sentenced Monday to prison terms ranging from 75 to 99 years, substantially longer than prosecutors had asked.

"I don't think Puerto Rico is willing to accept one more ruler, one more shipment of drugs, one more terrorist act," said Federal Judge Jose A. Fusté before passing sentence. "We are fed up."

Max M. Kampelman, left, the chief U.S. arms control negotiator, said Monday that the dispute over the 72 Pershing-1A missiles in West Germany whose warheads are under U.S. control was delaying an agreement on controlling medium and shorter-range missiles. The others with Mr. Kampelman at the Geneva talks are, from left, Senator J. Bennett Johnston, Democrat of Louisiana, Yuli M. Voronov, the Soviet Union's chief negotiator, and Senator Claiborne Pell, Democrat of Rhode Island.



U.S. Asserts That Dispute on Pershings in West Germany Delays Arms Pact

Max M. Kampelman, left, the chief U.S. arms control negotiator, said Monday that the dispute over the 72 Pershing-1A missiles in West Germany whose warheads are under U.S. control was delaying an agreement on controlling medium and shorter-range missiles. The others with Mr. Kampelman at the Geneva talks are, from left, Senator J. Bennett Johnston, Democrat of Louisiana, Yuli M. Voronov, the Soviet Union's chief negotiator, and Senator Claiborne Pell, Democrat of Rhode Island.

Islam at Center of Ferment in Tunisia

By Alan Cowell
New York Times Service

TUNIS — Faced with a surge of fundamentalist dissent, Tunisian officials have been charging that "Khomeini-ists" are plotting a violent overthrow of the government here in pursuit of Tehran's threats to export Islamic revolution.

But some of Tunisia's Western allies and the embattled Tunisian opposition say the government has heightened the purported threat to its hostility to more forms of dissent at home.

Iran's embassy has been closed, its diplomats have been expelled and hundreds of Tunisians supporting Islamic revival have been jailed. Some are reported by human rights groups, opposition figures

and Western diplomats to have been tortured to extract confessions.

In the second week in June, the police used tear gas and riot sticks to disperse several hundred fundamentalists demonstrating in central Tunis against the detention of their comrades in the worst crackdown since 1981.

Prime Minister Rachid Sfar said in an interview that "the mosques, some of them, had become places of subversion" before the government's action, which included the jailing of Rachid Ghannouchi, the head of the Islamic Tendency Movement, the leading fundamentalist group.

Estimates of the number of people detained range from 250 to 2,000, and the arrests continue.

The country's state-sponsored newspapers — all others are suspended or closed — carried reports Sunday of new arrests of what were called "Khomeini-ists" after the Ayatollah Ruhollah Khomeini, Iran's revolutionary leader. The reports did not say how many people had been detained in two rounds of purported subversives or when they were arrested.

The newspapers also carried photographs of three shuggins with cartridges, dynamite stolen from a quarry, American Winchester ammunition-loading kits with gasoline, gasoline bombs and other crude devices such as a bicycle chain, spikes to puncture automobile tires and what was described as a homemade bomb.

The munitions were said to have been discovered buried under a tree near Tunis. The display was designed to lend support to the theory that this Arab land of seven million Moslems, sandwiched between the more militant ideologies of Libya and Algeria, is threatened by a huge Iranian-backed conspiracy.

The government's reaction, however, has prompted concern among Western countries and accusations by opposition figures that the measures will only deepen fundamentalist hostility to President Habib Bourguiba's government and ferment latent opposition.

"There is no tangible, no public evidence of a link with Iran," said Ahmed Mestiri, a former cabinet member.

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Lebanese Said to Reject Being Freed

By Ihsan A. Hijazi
New York Times Service

BEIRUT — Ali Ossaeian, a Lebanese businessman, has rejected his captors' offer of freedom unless his kidnapped companion, an American journalist, is also freed, sources in the Moslem Shitate community said Monday.

The sources said that the journalist, Charles Glass, had been moved to a separate location, while Mr. Ossaeian and his chauffeur, Saleiman Salman, remained captive in a house in the predominantly Shitate southern suburbs of Beirut.

The sources said they had heard but could not confirm that Mr. Glass had been turned over to Iranian Revolutionary Guards for interrogation.

Mr. Glass, 36, a former correspondent for ABC News, was a guest of the Ossaeian family after he crossed into Moslem West Beirut from the Christian East only a few days before his June 17 kidnapping. He was researching a book about Lebanon's influential clans.

Mr. Ossaeian, 40, is the son of Lebanon's defense minister, Adel Ossaeian, a senior member of the Shitate community.

All Ossaeian and Mr. Glass were driving in the southern seaside suburb of Ouzai when they were intercepted by gunmen in three cars. Witnesses said the bearded gunman appeared interested only in the American but that Mr. Ossaeian and his chauffeur, who doubled as a bodyguard, insisted on going along if Mr. Glass was taken.

Shitate sources said they were fairly certain Mr. Ossaeian would be freed soon. But they added that they doubted Mr. Glass would be going along in the creationism case that apparently he was involved in.

See BEIRUT, Page 6

Chun Acts To Defuse Protests

Korean Leader Willing to Meet With Opposition

By Clyde Haberman
New York Times Service

SEOUL — President Chun Doo Hwan was reported Monday to have made important concessions to the opposition — including an agreement to meet with the leader of the main opposition party — but critical details remained vague, leaving the political crisis in South Korea still unsettled.

Despite the uncertainties, the overtures by the ruling camp were the most significant attempts yet to create a climate for talks that might end South Korea's civil unrest.

They also marked the first time that Mr. Chun was publicly identified as playing a direct role. Until Monday, the main figure on the government side was Roh Tae Woo, chairman of the ruling Democratic Justice Party, who is expected to be the next president.

In addition, Monday's developments signaled the re-emergence of opposition political leaders as a dominant force in the crisis. They were overshadowed for most of the last two weeks by students and other protesters who have taken to the streets in the most sustained anti-government violence since Mr. Chun took power seven years ago.

Under the concessions announced Monday, Mr. Chun is to meet in the next day or two with Kim Young Sam, president of the main opposition group, the Reunification Democratic Party.

The two men have never met, and only a month ago the ruling camp was threatening to press legal action against Mr. Kim for anti-government remarks.

Mr. Chun also was reported by ruling party leaders as having agreed to consider freeing several hundred protesters arrested since the recent cycle of violence began June 10, as well as lifting a house-arrest order imposed for 11 weeks on Kim Dae Jung, the country's most prominent political dissident.

Kim Dae Jung is said to have insisted on these two moves as a condition for meeting Mr. Chun.

Kim Dae Jung, who may receive phone calls, said in an interview that he had heard his confinement

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A Stillness Lingers in Chernobyl

By Celestine Bohlen
New York Times Service

CHERNOBYL, U.S.S.R. — Less than a mile from the Chernobyl nuclear power plant stands a dead forest. Where there were once more than 70 acres of pine trees, now there are only spindly trunks, shorn of needles, tinged a strange rust color.

The "red-headed forest," as it has been nicknamed, extends north of reactor No. 4, which blew open in an explosion on April 26, 1986.

"Pine trees are especially sensitive to radiation," said Alexander Kovalenko, information chief for operations in the 18-mile (29-kilometer) contaminated zone that rings Chernobyl. "They can withstand no more than a man can."

In the shadow of the now entombed reactor, Soviet Army servicemen have been working to decontaminate the forest; they rip up and bury trees, and plant grass. Still, 14 months later, hundreds of shriveled trees remain, testament to the deadly damage wrought by the nuclear power industry's most devastating accident.

In human terms, the accident has been officially documented: 31 dead, 237 initially hospitalized with acute radiation sickness; 135,000 people evacuated from towns and villages in the contaminated zone that extends from the Ukraine into the Belorussian republic.

Soviet experts agree that thousands of deaths will occur over generations because of the lingering effects of radiation. How many, nobody knows.

But while specialists dispute the future consequences of Chernobyl, the place itself is indelibly marked.

A view from the area puts the tragedy in perspective, in a way that information from experts cannot. The consequences appear even more devastating than one might have imagined, and the recuperation better.

On the road toward the heart of what is known as the "zone," village after village is lined with abandoned cottages, with weeds growing up along the side of wooden fences and wells. Fields surrounding the villages are overgrown and without animals.

Most haunting of all is the city of Pripyat, 11 once housed 50,000 people. See NUCLEAR, Page 6

Fred Astaire, a Paragon Among Dancers, Is Dead

Los Angeles — Fred Astaire, 88, whose debonair elegance and flowing, graceful style made him the most acclaimed dancer in movie history, died Monday of pneumonia in Los Angeles.

Topper, Cane, Charm
By Richard F. Shepard
New York Times Service

Mr. Astaire danced his way into the heart of America during the Depression. His deceptively easy light-footedness, warm smile, top hat, cane, charm and talent made people forget the harsh world outside the movie house.

A performer on stage, screen and television for more than six decades, Mr. Astaire starred in more than 30 film musicals between 1933 and 1968. Eleven of these costarred Ginger Rogers, his most durable dancing partner.

The music they danced to was written by the cream of the popular music world, including Cole Porter, Irving Berlin, Jerome Kern and George and Ira Gershwin.

There were other dancers, but few could match the sophistication and inventiveness of Mr. Astaire, backed by scores in such films as "Flying Down to Rio," "The Gay Divorcee," "Top Hat," "Swing



The Associated Press
Fred Astaire performing a dance routine on skates in 1937.

See ASTAIRE, Page 6

Airports Fear Solicitation Abuses

After U.S. Ruling, Ersatz Priests Collar Travelers Legally

By Robert Lindsey
New York Times Service

LOS ANGELES — Wearing a black suit and clerical collar, James Wright stands daily near an escalator at Los Angeles International Airport, and on a good day he collects \$150 or more in the cigar box he extends to passengers.

Mr. Wright is not a priest, but he wears a small badge identifying himself as a minister of the Universal Life Church, a mail-order organization in Modesto, California, that issues "ordinations" in exchange for a contribution of a dollar or two. For \$5, the organization confers sainthood by mail.

Mail-order ministers, some of them recruited on Skid Row, have recently joined others who ask passengers for money at airports around the nation. Airport officials say these people are the latest manifestation of a problem that has frustrated them for a decade and is likely to worsen in the aftermath of a recent decision by the United States Supreme Court.

The court unanimously struck down a ban on such solicitation imposed by the Los Angeles Board of Airport Commissioners, which had ruled that the airport was "not open for First Amendment activities by any individual or entity."

Jews for Jesus, which distributes pamphlets at many U.S. airports, challenged the law as a violation of

the First Amendment's guarantees of freedom of religion and expression.

The court declared that the regulation was unconstitutionally broad. It did not affect lower court rulings allowing airports to impose limited restrictions on the location,

"A guy dressed like a priest in a busy place like an airport can take in \$100, \$150 a day."

— James Bradford,
United Mission Church

time and manner of soliciting by religious groups.

The Supreme Court, however, did not address another constitutional issue in the case, a contention by Los Angeles officials that airport terminals should not be regarded as conventional public forums but as specialized places, like government buildings or military bases, where it is reasonable to impose certain limits on expression.

The basic issue is still undecided.

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As U.S. Companies Leave South Africa, Divestment Efforts Are Shifted Worldwide

By Mark Portz

Washington Post Service

WASHINGTON — Opponents of the apartheid policies of South Africa, who have been making headway in their efforts to get companies from the United States to withdraw from that country, now are turning their sights to a much tougher target: companies from other nations with holdings there.

"My anticipation is that there will be a new focus on all companies in South Africa as the American withdrawal becomes more pronounced," said the Reverend Leon Sullivan, the Philadelphia minister who has been a leader in the efforts to reduce American corporate involvement in South Africa.

Tim Smith, director of the International Center on Corporate Responsibility, said the movement was already "well under way" internationally. His group, based in New York, is involved in efforts to induce American companies to divest their South African operations.

The broadening of the efforts to put economic pressure on South

Africa to end its apartheid policies comes as Mr. Sullivan has taken his hardest line yet on the issue.

He is the author of a set of guidelines, known as the Sullivan Principles, that called for American companies operating in South Africa to maximize opportunities for blacks and to oppose apartheid in other ways.

But now he says the doctrine is not working. Two weeks ago he called for the complete withdrawal of American companies from South Africa.

Last week Citicorp, Ford Motor Co. and ITT Corp. announced plans to end their involvement in South Africa.

That makes nearly 150 American companies that have either left South Africa or have announced plans to do so since 1984, including 39 this year, according to the Investor Responsibility Research Center in Washington.

Many of the companies said they decided to leave for economic or strategic reasons rather than because of pressure from anti-apartheid activists.



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led by Mobil Corp., which has more than 3,000 employees there.

Most of these companies say they believe they can force South Africa to change its apartheid policies by working within the system.

But the remaining American-owned operations in South Africa are dwarfed in size by the investments of companies from other nations.

According to a new report by the Investor Responsibility Research Center, 254 foreign companies have direct investments or employees in South Africa, some of them far more involved than Mobil.

They include Standard Chartered PLC, a British banking group with more than 22,000 South African employees; Courtaulds PLC, a British paper and textile company with 14,260 workers there; and Royal Dutch Petroleum Co., with 8,160 employees in South Africa, which some experts believe to be the largest foreign investment there.

Other well-known companies with major holdings include West Germany's Volkswagen, Daimler-

Benz and BMW automobile companies; British Petroleum; Switzerland's Nestle S.A.; and Unilever Group, the Dutch-British consumer goods conglomerate.

Japanese companies also are key players in the South African market. They operate primarily through joint ventures or distributorships.

Anti-apartheid activists are focusing on the Japanese companies in part by appealing to their sense of honor.

"I think the Japanese companies are actually quite sensitive to their position," said Mr. Smith of the International Center on Corporate Responsibility.

Anti-apartheid activists in the United States have pressured American companies doing business in South Africa by proposing stockholders resolutions; urging institutional investors to sell their stock in companies with South African ties; and lobbying for the enactment of laws banning state and municipal-government investments in or contracts with companies with South African holdings.

So activists are trying another gambit. They are using a Dutch law requiring that a special church election meeting be called to discuss an issue if 10 percent of the shareholders request it.

Mr. Smith said that institutional and church investors holding 5 percent of the company's stock already support such a request.

In addition, anti-apartheid activists and union leaders are attempting to mount a U.S. boycott of products sold by Shell Oil Co., Royal Dutch's American subsidiary.

But Mr. Sullivan believes it may take more than those tactics to persuade other foreign companies to leave South Africa.

He is calling for congressional action to put trade sanctions on the nations in which these companies are based.

Royal Dutch Petroleum, for instance, refused requests this year to introduce shareholders' resolutions at its annual meeting requesting that the company pull out of South Africa.

WORLD BRIEFS

Tamil Rebel Leader Killed in Ambush

COLOMBO, Sri Lanka (AP) — Sri Lankan commandos killed the most powerful Tamil guerrilla leader in the Eastern Province during an ambush Monday that left three other separatists dead, the government said.

Police commandos of the Special Task Force ambushed eight fighters of the Liberation Tigers of Tamil Eelam as they were planning to attack a Sinhalese village, a government spokesman said. The other four were wounded but escaped. None of the police commandos was reported hurt.

One of the separatists killed was the Liberation Tigers' leader in the Eastern Province, who was known as Regan, the spokesman said. According to the government, Regan had set up the slaughter of 30 Buddhist monks and 4 civilians near Aranthalawa village on June 2 following the massacre of 10 Sinhalese there May 29.

UN Plan on Gulf War Called a Repeat

UNITED NATIONS, New York (NYT) — After a six-month campaign for a resolution "with teeth," the United States has settled for a draft Security Council plan to end the Iran-Iraq war that basically reprints existing statements, United Nations officials said Monday.

On Sunday, Michael H. Armacost, U.S. undersecretary of state for political affairs, hailed superpower support for the draft resolution, but UN officials described the new plan as essentially a repetition of Security Council Resolution 582 of February 1986, calling for an immediate ceasefire, withdrawal and an exchange of prisoners.

Iran refused to comply with that resolution, and the new draft lacks one component that might give it some force — an arms embargo against whichever combatant did not comply.

Turkey Threatens NATO Pullout

ISTANBUL (Reuters) — Turkey threatened Monday to review its membership in the North Atlantic Treaty Organization following a European Parliament resolution charging that Armenians had been genocide victims.

Turkish leaders have said that the vote Thursday by the Strasbourg-based European Parliament had encouraged Kurdish rebels who massacred 30 villagers in southeastern Turkey over the weekend. The Parliament resolution said that Turkey should recognize as genocide the deaths of hundreds of thousands of Armenians in 1915 as a condition of its entry into the European Community.

President Kenan Evren, in a speech in the central town of Sivas, said: "It would be useful to sit down and review once again Turkey's membership of NATO." Mr. Evren, quoted by state radio, accused some NATO countries, which he did not name, of helping Kurdish rebels.

Poland Censors Bishops' Statement

WARSAW (Reuters) — The Communist authorities heavily censored a statement by Poland's Catholic bishops Monday supporting calls by Pope John Paul II for more political freedom and respect for human rights in his homeland.

The bishops met during the weekend to assess the pope's pilgrimage to Poland this month and issued a communiqué repeating the themes he raised in homilies endorsing the ideals of the banned Solidarity union movement.

The references were all cut from a version of the communiqué reported by the PAP press agency and published by government and party newspapers. They included an assertion by John Paul that every Pole should have the right to participate without discrimination in all aspects of society, including politics, and to express "rightful opposition."

Burma Airliner Missing in Mountains

RANGOON, Burma (AP) — A Burmese airliner with about 40 people aboard disappeared and airline officials said Monday it may have crashed in the mountains of eastern Burma.

An airline source said the Burma Airways Fokker Friendship 27 was on a regular commercial flight Sunday evening in Shan state. A government official said it was a special flight carrying local officials and officials of the ruling Burma Socialist Program Party.

"There is a plane missing," an airline source said. "Most probably it crashed in rugged terrain. If that is true there could be no survivors." Sources said the control tower lost contact with the twin-engine plane 10 to 15 minutes after it took off from Heho, 280 miles (450 kilometers) northeast of Rangoon. It was on a one-hour trip to Mong Hsat, about 15 miles east of Heho, also in Shan state, they said.

For the Record

President Hosni Mubarak of Egypt plans to run for a second six-year term, according to an announcement in Cairo on Sunday by Yousef Wali, secretary-general of Mr. Mubarak's National Democratic Party. The official Middle East News Agency quoted Mr. Wali as saying that campaigning would begin next month and a national referendum would be conducted in October to elect the president.

The International Whaling Commission began its annual meeting in Bournemouth, England, on Monday amid demands by ecological groups for a complete worldwide ban on whaling. The congress was to be held in private session until the end of the week, while members of ecological groups were to hold protest outside the meeting place.

Foreign Minister Shimon Peres of Israel left for Europe on Monday in another effort to gather support for a Middle East peace plan opposed by his government coalition partner, Prime Minister Yitzhak Shamir. (UPI)

France has agreed to resume deliveries of Mirage aircraft to Egypt, suspended in April because of payment delays, Defense Minister Abdellah Abu Ghazala of Egypt said Monday.

TRAVEL UPDATE

Italy May Face a Disruptive Summer

ROME (Reuters) — Travelers in Italy are facing a summer of chaos because of strikes by workers in several sectors of the transport industry, union officials said Monday.

Rail workers and airline pilots seeking improved pay and conditions have called strikes for several days over the next three months, and workers on ferries between Italy and Sardinia have been striking for four hours a day.

Gasoline station attendants were to decide Monday whether to strike for 48 hours to protest possible government deregulation of prices. The strikers are organized by groups outside Italy's main union federations.

4 European Airlines to Coordinate Data

PARIS (Reuters) — Four European airlines have agreed to set up a joint computerized system to coordinate information about travel services, Air France said Monday.

The system, agreed on by Air France, Iberia of Spain, Lufthansa of West Germany and the Scandinavian Airline System, will become operational in 1989, it said. Called Amadeus, it will offer travel agencies and airlines an integrated display of airline, hotel and car rental services.

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INTERNATIONAL HERALD TRIBUNE, TUESDAY, JUNE 23, 1987

Africa's New Threat: A 'Financial Famine'

By James Brooke

New York Times Service

ABUJA, Nigeria — Africa, still recovering from the famine of 1983-85, is now grappling with an equally damaging "financial famine," African economists say.

Ballooning debt payments, slumping commodity prices and dwindling foreign investment have combined to make the impoverished continent an exporter of capital, said Adebayo Adeleke, a Nigerian who is executive secretary of the United Nations Economic Commission for Africa.

The commission organized a conference in Nigeria last week to take stock of Africa's economic health a year after the United Nations brokered an African development pact.

In return for more Western aid, African nations had agreed to try open-market policies.

By last week, 25 of the 45 black-ruled nations of sub-Saharan Africa had met the UN guidelines. These included cutting state bureaucracies, paying farmers fairer prices and setting realistic exchange rates.

But the conference highlighted the fragility of sub-Saharan Africa — a huge, diverse area of 460 million people that has an overall gross national product smaller than Spain's.

Harsh economic winds are blowing across the continent, causing "financial famine," said Ahwya B. Taylor, director general of the African Center for Monetary Studies. The center is financed by the central banks of 45 African countries.

Mr. Taylor and other economists cited these recent setbacks:

• Payments on Africa's foreign debt, now about \$95 billion, jumped to \$14 billion in 1986, from \$3 billion in 1983.

North, Congress Reach Tentative Testimony Accord

The Associated Press

WASHINGTON — Congressional investigators and lawyers for Lieutenant Colonel Oliver L. North reached tentative agreement Monday on terms expected to lead to his public testimony later this summer in the Iran-contra hearings.

Sources said the agreement would require the former National Security Council aide to undergo limited private questioning before he appears in public, despite his initial reluctance. In addition, Colonel North would be required to deliver documents that the House and Senate investigating committees are seeking.

Officials had announced that they planned Colonel North a 24-hour extension in the deadline for delivery of spiral notebooks in which he is believed to have kept accounts of his activities. The negotiations over his proposed testimony, for which he has been granted limited immunity, are likely to continue this week.

The second phase of the hearings, which reopen Tuesday following a two-week recess, are to focus on the secret role of U.S. arms to Iran. Colonel North directed the sales.

Sheikh Balks At Accord on Sharjah Rule

Pentagon, State Department Divided On Question of U.S. Trade With Iran

By Elaine Sciolino

New York Times Service

WASHINGTON — The Pentagon is locked in a struggle with the State and Commerce Departments over whether the United States should continue to trade with Iran, according to administration officials.

Defense Secretary Casper W. Weinberger is arguing strongly for a total ban on trade except for medical supplies and other things that he describes as humanitarian goods. Officials at the State and Commerce Departments believe that current trade levels, which include goods from caviar to oil, are reasonable, the administration officials said.

In a letter several days ago to the sheikh who tried to take over the Gulf emirate of Sharjah from his brother held court in the heavily guarded ruler's court Monday and asked for wider powers as a condition for abandoning his claim to leadership.

Sources close to the ruling family said Sheikh Abdell-Azz bin Mohammed al-Qasimi had refused to accept a decision by the Supreme Council of the United Arab Emirates that confirmed his brother, Sheikh Sultan bin Mohammed al-Qasimi, as the legitimate ruler.

The compromise decision appointed Sheikh Abdell-Azz as crown prince.

In Venice, the seven powers at the economic summit meeting this month backed a proposal to triple an International Monetary Fund project largely intended for Africa to \$9 billion from \$3 billion in 1983.

The Western officials also noted that last month, the world's largest multilateral lender, the International Development Association, a UN specialized agency, is to open a loan fund designed to double the money available for Africa to \$6 billion.

Debt relief also may be on the horizon.

About 75 percent of Africa's debt is owed to Western governments. The Venice communiqué urged consideration on rescheduling debts with lower interest rates and longer grace periods.

The United States, long fiscally conservative on the issue, came out recently in favor of giving 10-year grace periods for repayment of African government debts. Canada announced last year that all new aid to sub-Saharan Africa would be given through grants, not loans.

Mr. Weinberger, focusing on military talks with the U.S. secretary of state, George P. Shultz, and the defense secretary, Casper W. Weinberger, Mr. Hayden said that Australians are seeking economic well-being as a major component of security.

"But countries such as Australia played no part in creating those problems," Mr. Hayden told Mr. Shultz. "Indeed, we are playing our part in reaching a solution because we have a two-to-one trade deficit with you."

Mr. Weinberger, focusing on military issues, asserted that New Zealand was militarily much weaker outside the alliance with Australia and the United States. This is the third year that New Zealand has been absent from the talks.

In a joint communiqué, Australia and the United States regretted the enactment of New Zealand's anti-nuclear policy earlier this month.

However, there was continued disagreement between Washington and Canberra over French nuclear tests in the Pacific.

The offer was reported by the International Herald Tribune on Monday in a story from Singapore. It cited Australian officials and a U.S. official as saying that the offer was made in an effort to reduce anti-nuclear sentiment among South Pacific countries, who oppose French nuclear testing at Mururoa atoll. Those officials told the International Herald Tribune that France had rejected the offer but that it remained open.

Mr. Hayden criticized the tests, which he said add to the difficulty of maintaining a comprehensive and cohesive support for Western interests in the region.

The talks coincided with France's third nuclear test this year at its South Pacific site.

Test Site Report Denied by France

Agence France-Presse

PARIS — A report that the United States offered to let France use Nevada nuclear-test facilities as an alternative to the South Pacific test site has "no foundation," a source close to Defense Minister André Giraud said Monday.

Such speculation, the source said, was "aimed at discrediting French independence" at a time when it was trying to work for the creation of a European defense system.

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U.S. Case of a Retarded Murderer Raises New Death Penalty Quandary

By Ruth Marcus.

Washington Post Service

CONWAY, South Carolina — Minutes after the decision, the guard brought Limmie Arthur, a convicted murderer with an IQ of 65, to a small back room in the Horry County jail to talk with his lawyer.

Experts on mental retardation had spent the day testifying that Mr. Arthur, 28, the son of a sharecropper, had the mental ability of a child 10 to 12 years old, at best. They had said he could not remember his lawyers' names or recite the alphabet.

Last month Mr. Arthur was sentenced to die in South Carolina's electric chair for killing his crippled 65-year-old neighbor with an ax and stealing his Social Security retirement benefits. On Friday, the judge who had imposed the death sentence refused a defense plea to reduce Mr. Arthur's sentence to life in prison or grant him a new trial.

One of Mr. Arthur's lawyers, John Blume, asked him how he felt about the result.

"I ain't too sure," Mr. Arthur said, smiling. "I feel good anyway," he said, adding: "Got a new trial."

"Limmie, he didn't give us a new trial," the lawyer replied, winching. "This means we're going to have to appeal it. You know what appeal means?"

"Yes, sir," nodded Mr. Arthur.

The case of Limmie Arthur poses the troubling question of whether the death penalty may be imposed on murderers who are mentally retarded — or whether their execution should be barred, as Mr. Arthur's lawyers contend, under the U.S. Constitution's Eighth Amendment, which prohibits cruel and unusual punishment.

"It's just wrong to execute people whose understanding of the world is that of children," said Mr. Arthur's chief lawyer, David Bruck.

The death penalty is an absolute punishment," he said. "And if it is to be imposed at all, it should be imposed on people whose sense of responsibility and judgment is such that they fully appreciated the seriousness of what they were doing."

But prosecutors in Mr. Arthur's case, and other advocates of capital punishment, argue that, as long as mentally retarded offenders understand the criminality of their acts and are competent to stand trial, their low intelligence should not shield them from execution.

"There is an abundance of evidence in the record to show the defendant knew what he was doing, knew the criminality of his act, and the difference between right and wrong," argued Debbie Ow-

U.S. Amnesty Group Seeks End to Penalty

United Press International

SAN FRANCISCO — Amnesty International USA has decided to seek an end to the death penalty, which speakers called a violation of human rights and "a surreptitious expression of racism" because statistics show that a disproportionate number of blacks receive it.

At its U.S. director, John Healy, told 1,000 American members at the group's annual meeting that capital punishment is the ultimate violation of human rights and should be abolished.

He called for an end to capital punishment in the United States.

one, the assistant Horry County solicitor.

Prosecutors have not conceded that Mr. Arthur is retarded, but they presented evidence to rebut the defense witnesses.

Defenders of a death sentence for Mr. Arthur also point to the brutality of the murder and to Mr. Arthur's prior criminal record. That record includes five house break-ins and his guilty plea to involuntary manslaughter in the stabbing death of his older brother,

who attacked Mr. Arthur with a thick piece of wood.

The Supreme Court has never squarely addressed the issue of whether a retarded person may be executed, and Mr. Arthur's inevitable appeal could become a test case. If his death sentence is upheld, his execution would be the first since 1976 of a defendant whose retardation was an issue before the judge or jury imposing the sentence. That was the year the Supreme Court permitted capital punishment to resume.

Mental retardation, however, is not unusual among the 1,901 convicts on death row. A survey by the Clearinghouse on Georgia Prisons and Jails, a group that opposes the death penalty, found that at least 250 prisoners nationwide had IQs below 70, the accepted cutoff for mental retardation, and that 15 percent to 20 percent functioned at a below-average intellectual level, with IQs in the low 70s or below. An IQ of 100 is considered average.

Of 77 murderers executed since

capital punishment was reinstated, at least five were diagnosed as mentally retarded or borderline. But the issue of their mental capacity was raised too late in the process to stop their execution.

Mr. Arthur is the 17th of 18 children raised in a tiny, tin-roofed shack amid the tobacco fields of rural Duford, near Myrtle Beach.

When questioned, Mr. Arthur first told the police that he earned the money selling peanuts, then switched his story and told them he stole it from his father. When Leroy Arthur disputed that, Limmie changed his story again and said he had taken the money from Mr. Miller earlier that day.

Mr. Arthur did not testify at his trial.

To prosecutors, the fact that Mr. Arthur hid after the murder and lied to the police demonstrate that he understood what he had done.

"If he didn't understand the criminality of his act after he killed Cripple Jack Miller," said Ms. Owens, the prosecutor, "he wouldn't have had the sense to go hide in the attic or the ability to create a story and to change it."

From the defense viewpoint, Mr. Arthur's attempt to escape responsibility by hiding and lying is evidence that he is not a savvy, street-smart criminal.

"He took his bloody shirt and left it soaking at the scene of the crime," said Mr. Bruck. "There he is, hiding in the attic with his feet sticking out. Good grief. If that's the crime of a mature criminal, I think the job of our law-enforcement agencies would be a great deal easier than it is."

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An Honor for Nancy Reagan

Mikhail Baryshnikov, the ballet star, dancing with Nancy Reagan in Washington during the Ford Theater's festival ball. She was presented with a medal for her support of the theater.

Agency France-Press

Group to Patrol N.Y. Subways

By Esther Iverson
New York Times Service

NEW YORK — Twenty-five young black men began patrolling the city subway system Sunday in an effort to curb crime that they believe disproportionately affects the black community.

The organizers of the patrol said that the unarmed volunteers will patrol all subway lines from 6 P.M. to 6 A.M. daily and will intervene when they see crimes against the members of any race.

They said the patrol said it began in response to the acquittal last week of Bernhard H. Goetz, 39, in the shooting of four persons on a subway train. Mr. Goetz said he shot them because he believed they intended to rob him.

Mr. Goetz is white and the four young men shot are black. A U.S.

civil rights investigation after the shooting concluded that Mr. Goetz had acted out of fear and that there had been no racial motivation.

Mr. Goetz, an electrical engineer, was charged with attempted murder, assault and illegal possession of a weapon. He was acquitted in the December 1984 shootings by a jury last week. He was convicted of carrying a loaded, unlicensed revolver in a public place.

Nathaniel Cumberbatch, a member of the patrol, which is called the Disciples of Justice, said, "I don't want me or my son to be picked as targets for violence or harassment because we are black."

Mr. Cumberbatch, 33, a construction worker, spoke as he and the other patrol members left the Universal Church of God in Christ in Brooklyn and headed for a nearby subway station.

West German Dentists Strike

United Press International

COLOGNE — Most of West Germany's 30,000 dentists went on strike Monday against a proposed cut in fees involving some services covered by the socialized medical system. Patients needing immediate care were referred to emergency clinics.

Such language helps solve what Governor Bill Clinton of Arkansas, who is contemplating entering the Democratic contest, has called "the great dilemma for Democrats: how to speak to the possessed and the dispossessed at the same time."

When he was governor of Arizona, Mr. Babbitt pioneered efforts to provide child care at a reasonable cost. In recent weeks, Senator Joseph R. Biden Jr. of Delaware, who is also running, has devoted

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Submarined by Allies

Western security has been undercut by the avarice of two companies, Toshiba of Japan and Kongsberg Vassensfabrik of Norway, and by their governments' lack of technical supervision of militarily sensitive exports. Under false pretenses, the companies shipped machinery to the Soviet Union that will enable the Russians to fabricate quieter submarine propellers. Soviet submarines will now become much harder to detect, all so that Toshiba and Kongsberg could turn some extra profit.

Both Norway and Japan concede the seriousness of the diversion. Neither seems yet to appreciate the sentiment building in Congress for sterner reprisal than the diplomatic tir-tirs being uttered by the administration. The House of Representatives last week voted 415-1 to demand compensation. In the Senate, Jake Garn suggests that "we ought to really hurt Toshiba." Norway and Japan would be smart to volunteer some more substantial remedy than the wrist slaps so far given to their errant companies.

No technology can be kept a Western monopoly forever, but there is every reason to try slowing the rate of seepage of militarily useful technology. Under rules set by their coordinating committee, COCOM, the North Atlantic Treaty Organization countries and Japan thus restrict export of such products. Though COCOM rules are administered seriously by the United States, France and Britain, other countries have lax enforcement and mild penalties.

Kongsberg and Toshiba evidently believed they had little to fear in their conspiracy to sell propeller-milling equipment to the Russians. Toshiba provided the milling ma-

chines, Kongsberg the numerical-control computer and software to drive them. Both companies lied to their export authorities about the sophistication of the machines. The U.S. Defense Department believes the Russians supplied the design of the propellers to Kongsberg, which wrote the software. Norway asserts software was provided only for the computer's operating system.

Soviet submarines have long been noisy that some could be detected an ocean away. Perhaps because of the hemorrhage of navy secrets passed on by the Walker spy ring, recent designs have become considerably quieter, almost as quiet as U.S. submarines. Propellers are only one source of noise, and it is not clear whether Soviet submarines have already benefited from the Kongsberg-Toshiba machines, sold in 1983 and 1984.

But even if the Russians still lack the sophisticated testing and quality controls to make best use of the equipment, they have gained substantially. The navy estimates it will take \$1 billion or more for advanced electronics to undo the damage.

The administration hopes the incident will prompt more vigorous export controls by its allies. It resists the idea of sanctions lest they cause resentment instead of cooperation. But tighter export control is the least to be expected of Norway and Japan. They argue that payment of compensation is inappropriate between sovereign nations, and that their own security was also harmed. But why should only American taxpayers bear the cost of the Kongsberg-Toshiba treachery? Something more is needed than apologies and hand-wringing.

—THE NEW YORK TIMES

'Time Out, Dammit!'

General Bernard Rogers, retiring as NATO military commander, unburred himself of no mean valetudinary grumble in an interview with Jim Hoagland of The Post (IHT, June 19). Referring to the Reagan administration's "rush" to an arms control agreement with Moscow and the cascade of other proposals pouring out of the Kremlin, he declared: "Somebody ought to stand up out there and say to NATO, 'Time out, dammit!' We have moved too quickly, and it is time for us to sit back and think and reorganize."

General Rogers speaks for the many who feel that a combination of erraticism and uncertainty in the Reagan administration and activism and confidence in the Kremlin has strained the alliance badly. There is a widespread expectation that Mikhail Gorbachev may soon come on even stronger to turn some of the West's old arms control offers back upon it, as he did with the "zero option" proposal on intermediate-range missiles. The Europeans' particular fear is now "denuclearization," seen less as deliverance than exposure to the whims of Soviet conventional power.

But General Rogers may be too sensitive to European NATO jitters. The arms control pact that Washington ostensibly is "rushing" toward is one it put on the table, at European urging, nearly two presidential terms ago. If the alliance was not fully

—THE WASHINGTON POST

An Assault on Immunity

Two important mechanisms are bashed together in the U.S. Justice Department's strange new assault on the special prosecutor law. One is the idea that independent lawyers should investigate when high officials are charged with misconduct. The other is diplomatic immunity, which protects foreign representatives from prosecution for whatever crimes are cooked up in other countries.

It is a needless collision. In its eagerness to denounce one possibly errant prosecutor, the Justice Department strains to tarnish the law that makes possible all such independent, credible inquiries.

The issues intersect in two cases. Special prosecutor Whitney North Seymour Jr. seeks to compel the Canadian ambassador and his wife to testify in the perjury trial of Michael Deaver, President Reagan's confidant and former aide. The prosecutor says Ambassador and Mrs. Allan Golde are essential witnesses as to whether Mr. Deaver lied about his involvement in U.S.-Canadian affairs before leaving the White House to become a lobbyist. Mr. Seymour argues that the Goldeis waived immunity when they agreed to cooperate, if in limited fashion. The Goldeis and the Canadian government say they intended no waiver.

Another special prosecutor, Lawrence Walsh, who is investigating the Iran-contra affair, has subpoenaed David Kimchi, who was director-general of the Israeli Foreign Ministry when he helped broker the sale of U.S. weapons to Iran through Israel. Israel claims diplomatic immunity and also cites an

agreement Congress made not to subpoena Israeli citizens to testify in the case. But Mr. Walsh argues that this legislative branch agreement cannot bind him. More difficult is the question of whether Mr. Kimchi, no longer a diplomat, still enjoys immunity.

The Justice Department, eager to block renewal of the law authorizing special prosecutors, seizes on such difficulties as a further argument. In the Deaver case, the State Department and experts on international law are virtually unanimous that the Goldeis have the right to withhold their testimony. Thus it is perfectly outrageous, by the Justice Department's lights, for their diplomatic immunity to be trampled.

Yet there is a forum for resolving such questions, which the Justice Department has now employed: the federal courts.

They remain open to protests of excess,

whether the counsel is dependent or not.

If the Goldeis' claim is as solid as it appears, a federal judge will certainly honor it. If Mr. Seymour's claim is excessive, that does not taint his other work, or the work of other independent counsels.

Diplomatic immunity has many unhappy consequences, including the deportation without trial of alleged rapists. But it also protects American diplomats abroad, and may properly protect the Goldeis and Mr. Kimchi in the United States. Their cases will be argued before federal courts. That, not doing away with special prosecutors, is the way to protect diplomatic immunity.

—THE NEW YORK TIMES

Other Comment

Soviet Actions Speak Loudest

Before rushing to make concessions in disarmament talks, the West should wait for Mikhail Gorbachev to show in actual deeds, rather than mere rhetoric, that the expansionist Soviet foreign policy of the Brezhnev era has changed. The experience with detente, accompanied as it was by a massive

soviet buildup of nuclear missiles, indicates that caution is in order. A fixed timetable for the withdrawal of Soviet troops from Afghanistan, and a genuine reduction of Soviet troop levels in Czechoslovakia and East Germany, could reduce Western mistrust and give real meaning to the talks on conventional disarmament, while preserving security.

—Neue Zürcher Zeitung (Zurich)

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Waldheim's Vatican Visit: Jews Feel 'Burning Outrage'

By Arthur Hertzberg

NEW YORK — In September 1971, in a synagogue in Paris, there was a new beginning in the often painful history of the relations between Jews and Roman Catholics. For the first time ever, the Vatican had sent an official delegation to meet with an equally weighty group that spoke for the major Jewish organizations.

In three days, most of the issues that preoccupy Catholics and Jews, from anti-Semitism to abortion, were aired, and the delegates discovered how long the journey was yet to be before Catholics

must the pope be his pastor? Is there no priest in all of Austria to minister to Mr. Waldheim? Is there no other way of saying to the Austrian people that they are cherished sons of the church?

Let me ask my Catholic brothers to understand the pain in a Jewish heart. I speak not of the pain of centuries but of the hurts of recent years. We have rejoiced in the zeal of the church, and especially that of the present pope, in the battle against anti-Semitism.

We know of quiet interventions for people in trouble, and it would be wrong, even at an angry moment, not to acknowledge this fraternity. But our discomforts have been growing. We are ever more convinced that in the Nazi era, and in the immediate years thereafter, the church, on balance, worried more about fleeing Nazis than it did about dying Jews.

Today, the pope continues to withhold diplomatic relations from Israel.

The memory of the Holocaust and the miracle of Israel's existence are the two high drama, one tragic and the other glorious, of our Jewish lives. We know that the leader of our Catholic brothers remains deeply shaken by his own youthful memories of Nazi-occupied Poland and that he is glad that Jews are no longer hunted, but we fear that the pope does not feel our pain as we do or share in our great joy in Israel as we do.

There is burning outrage in the Jewish world at the invitation to Kurt Waldheim, and the bodies that began the formal dialogue with the church are now asking whether this relationship can continue, especially since the pope has asked that the current topic be the Holocaust.

Jewish leaders have argued about the tactics to use in the battle with Mr. Waldheim. But the Jewish world is united that a man of his past, who looked away while Jews were murdered and Yugoslav villages were burned, is not morally acceptable as a world leader. In this they are joined by all Western opinion, except for a divided Austria.



By BEHRENDT, C&W Syndicate

I cannot believe that the pope expects to reverse this judgment, or even to unite Austria, by having the Swiss Guard salute Mr. Waldheim as he arrives at the Vatican gate.

My heart tells me that it is not so simple; at least that will blow over. It will poison the highest levels of Jewish-Catholic relations.

I hope that the pope has invited Mr. Waldheim to provide him with a graceful way of leaving the presidency of Austria. If that is the penance that the pope is imposing, he will serve Mr. Waldheim and Austria, and both Catholics and Jews. The pope will then be seen as the leader of a church that wants to turn away from Mr. Waldheim's sorry past and to confront its own collective conscience. A simple whitewash by the pope of the evasive Mr. Waldheim is unthinkable.

I await good news from Rome, the news of a courageous leader acting for the future. I tremble at the thought of another regressive and angry era in relations between Jews and the church.

The writer, a rabbi, is vice president of the World Jewish Congress and a professor of religion at Dartmouth College. He contributed this comment to The New York Times.

For Seoul, Stern but Quiet Talk

By Flora Lewis

SALZBURG — The violent crisis in South Korea goes on. It will leave more bitter scars in a country that has many resentments to cherish, and whatever the United States does now, anti-American feelings are stoked.

There is little prospect of any speedy euphoric ending of an era, as the election stolen from Conron Aquino and reclaimed by the will of the people caused in the Philippines. The problem is not just President Chun Doo Hwan. It is the perpetuation of a tough, military-run regime in a country that has made extraordinary economic and social progress in a generation. Politics lags behind.

And it is a reflection of the strains added when a country undergoing the difficulties of rapid change is also a key piece in the East-West conflict. Like leftist youths in West Germany, the South Korean demonstrators have their own ideas for the country they live in, and they do not see why they should think instead about the Communist regime next door.

Unlike the Germans, they have not had democratic experience. The country was ravaged by a half-century of Japanese occupation. When North Korea invaded in 1950, it had scarcely begun to revive. Since then, protected by 41,000 American troops, it has flourished and made an enormous mark on the world of commerce.

But it is still partitioned, still smarting at a sense of less than complete independence. President Jimmy Carter planned to withdraw the U.S. troops, which probably would have been a good idea in terms of the development of internal South Korean politics as well as in terms of cost to the United States.

It was a bad idea strategically, so demonstrably bad as detente broke down and Moscow pushed at soft spots around the globe that he canceled it. The troops remain and guard the front effectively.

North Korea is still a taut, opaque, heavily armed state with undisguised ambitions. Kim Il Sung is aging but he has not begun to bend in the direction of reforms that even Vietnam, behind China and the Soviet Union, has come to admit are necessary.

From time to time, there have been gestures toward minimum accommodation between the two halves of Korea. But they never get far. There is nothing like the human contacts between the two Germans, actively and expensively encouraged by Bonn, to ease the pain of partition.

It is a shame that Seoul was not willing to accede to Pyongyang's demand for a larger share at the table of Olympic events. That would have forced some opening of North Korea and provided a test of what lies beneath the surface. Nobody knows. Mr. Kim is trying to assure that the regime will go on unchanged by preparing the succession of his son, which may or may not work. It would be imprudent for South Korea to let down its guard.

But this is not a good enough argument for keeping what is essentially a military regime, without its uniform, muzzling the democratic aspirations of the South. On the contrary, the refusal to consider constitutional reform before next year's Olympic Games and the failure to persuade the opposition that elections will be fair are causing the trouble now. Even the Olympics are threatened. They should be moved unless there are clear signs fairly soon that the government is prepared to calm the atmosphere by seeking reconciliation with its people, and it is to be hoped it has now reached the point of decision. The demands are not new. Twenty years ago students were rising in Seoul, calling for democracy. Now their children are saying the same, and they will not be denied indefinitely.

The dilemma for U.S. policy has no easy answer. Urging the government to talk to the opposition and to show restraint has not had much effect. Inevitably, many Koreans hold the United States responsible for the survival of repression. In the eyes of the demonstrators, doing nothing to oppose it is a proof of support.

But this is not a case for sanctions, certainly not trade sanctions, which would immediately be seen as a U.S. trick to limit Korean competition with a thin excuse. Some stern talk is needed, preferably in private so as not to stifle the confrontation.

Americans made a huge sacrifice to safeguard Korea's chance for its present prosperity and its hopes for democracy. The United States has a right to press the government to fulfill those hopes. But it is also paying the price of focusing too much on global rivalry when the people directly involved have their own priority.

The New York Times

Yes, Collar the 'Fat Cats,' but Let's Curb Ourselves Too

By James Reston

will probably dominate the news this summer, with Colonel North and Admiral Poindexter on the stand testifying on what the president knew and when he knew it or forgot it. But after all this paving over the past, there will still be time to plan for the future.

With the decline of Mr. Reagan, the transition is starting earlier in this election than usual. There are some thoughtful people in both parties who recognize that the situation is too serious to be left to Mr. Reagan or the candidates who are roaring around the country selling themselves.

Governor Mario Cuomo of New York, for example, is proposing the formation of a national bipartisan economic commission to study the budget, trade, monetary and other related issues so that the presidential nominees will have some considered guidance to guide them in the campaign.

Others are suggesting similar commissions on arms control, drug control, education reform and public health to assist the winners and nourish the national debate in the 1988 campaign. Their reports, of course,

would not commit the nominees to anything, but would at least be orderly and objective summaries of the principal issues for decision.

One of the major problems of U.S. presidential elections is that the winner usually starts off an exhausting campaign with only a few weeks to pick a cabinet and a White House staff, draft an inauguration speech, deliver a State of the Union Message and construct a budget.

Unlike the chief executives of other democratic countries who have permanent undersecretaries of various departments and agencies who carry on from one administration to the next, the winner of the U.S. election inherits little more than a party platform that he did not write and a civil service that he did not know.

This is the argument for an expanded "transition period" beginning now. The situation in November of next year will not be like November of 1984 when the re-elected Ronald Reagan carried his first-term team into his second term. After the next election he will be gone, and both parties will have to begin anew.

After the assassination of Presi-

dent Kennedy, I spent a few days with President Lyndon Johnson at his ranch in Texas. He was grappling with this problem of transition.

"You know," he said, "I've been around Washington for quite a while, and I know some people from the South and the Southwest, but with all these jobs to fill I'm just realizing I don't really know where the good people are in the Middle West or the far West. I don't know how to find them."

He said that when he had to appoint judges, he had the help of the bar associations, and he wondered whether the press associations in the various states could not get together rosters of the most talented people in their areas. It was not his best idea but it illustrates the problem.

If the political parties were strong today, they would take on this task of preparing for the campaign, collecting data for the coming debates and mastering the best talent available.

But like the president, they are not now in a strong position. They are leaving the job primarily to the announced candidates, who are out raising money and speaking privately for themselves.

The New York Times

In the Thai Hills, a More Lucrative Crop

By William N. Raiford

OPINION

When Helms & Co. Pursue Policy by Wrecking-Ball

By Philip Geyelin

WASHINGTON — What with the Boland amendment and Nicaragua, or the War Powers Act in the Gulf, one year seems for a clear-cut case to sharpen the mind-bending debate over the respective roles of Congress and the executive in the making of foreign policy.

Well, there is one. For more than eight months, the Senate has been managing the nomination of a career Foreign Service officer, Melissa Foelesh Wells, to be the U.S. ambassador to Mozambique. She is hardly the first (and will certainly not be the last) ambassador designate to be caught up in a foreign policy power play. Mozambique, the former Portuguese colony on the south

Helms's current target is '100 percent guilty' of supporting U.S. policy.

east coast of Africa, scarcely qualifies as a top-priority U.S. security concern.

But even as a microcosmic case study, this one has macro-implications that only begin with the mean-minded mischief-making of Senator Jesse Helms of North Carolina or the ideological hotheadism of the far right.

The charge against Ms. Wells (as is usually the case) has nothing to do with her *credentials* or her competence. Her problem, as one State Department official puts it, is that she is "100 percent guilty of supporting the Reagan administration's position" on Mozambique. It is the Reagan policy that her critics (mostly Republicans) cannot abide. And the reason for this is that over the past four years, the Reagan administration has been sensibly and successfully standing the "freedom fighting" fixation of the Reagan doctrine on its head in Mozambique.

Undeniably, when the anti-imperialist revolutionaries in Mozambique broke away from Belgium's colonial rule, they turned to Marxism-Leninism for inspiration and to the Soviets for military aid against the Mozambique National Resistance, or Renamo, a ragtag rebel movement of the most dubious origins. Renamo was created by the white supremacist government of Rhodesia in an effort to blunt Mozambique's support for the liberation movements that eventually brought independence to what is now Zimbabwe. For its legitimacy, it now relies on the sponsorship of South Africa.

Also undeniably, Mozambique's young government wrecked the country's economy with its Marxist doctrines and fell afoul of the Carter administration's human rights policies by its repressive ways. But in 1983, President Samora Machel made a conscious decision to loosen the Moscow connection.

introduce economic and social reforms, and reach out to the West.

The results fall well short of a break with Moscow or Marx. But they were sufficiently impressive to bring an invitation to the White House for Mr. Machel from Ronald Reagan in 1985.

After Mr. Machel died in a plane crash last year, the trend continued under his successor, Joaquim Chissano. His recent call on Britain's impeccably conservative prime minister, Margaret Thatcher, won him a doubling of British aid. America's most important Western allies, as well as strategically located black African states, support the Mozambique government and the Reagan administration's policy. Black African states bordering on South Africa depend on Mozambique's road, rail and pipeline links to Indian Ocean ports.

But that is not enough for Helms & Co. They would use Melissa Wells as a bludgeon to reverse the Reagan policy and put America on Renamo's side of the struggle. In its destructive, low-down, high-handed way, Mr. Helms did not even show up for Ms. Wells's confirmation hearings. He voted by proxy against her when the nomination was overwhelmingly approved by the committee. Whereupon, he bullyraged her with an unprecedented 246 picky, tendentious and largely irrelevant written questions.

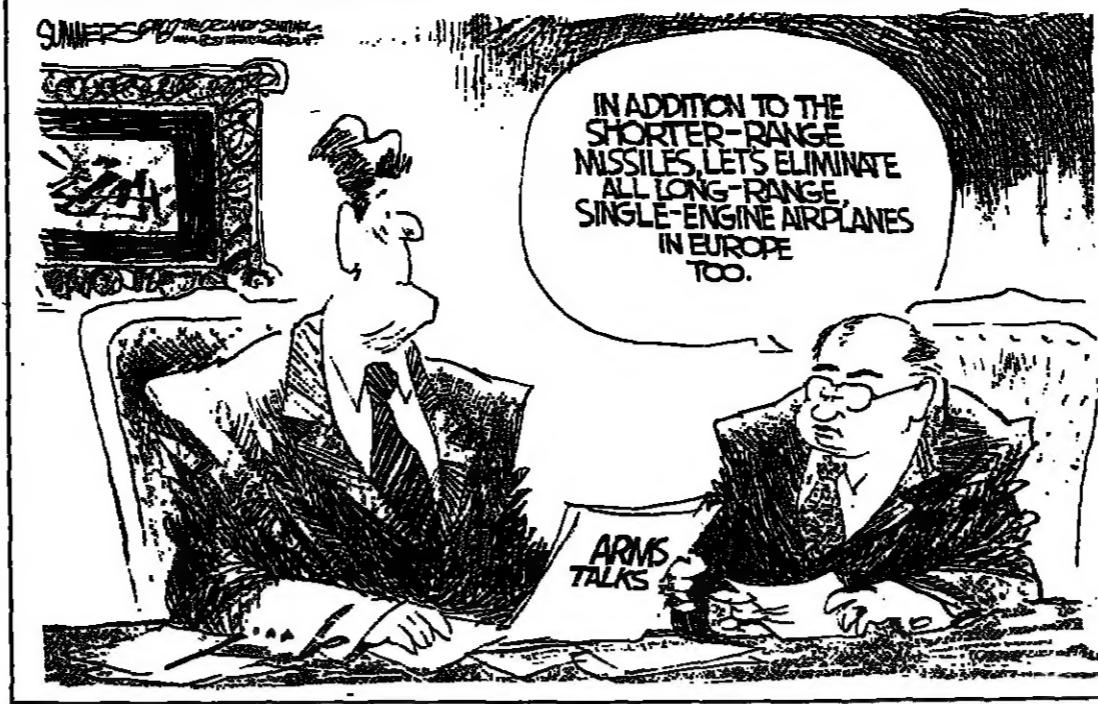
Up to a point, this is vintage Helms. What is new is that the Republican senator has rallied twice the dozen or so archconservative Senate colleagues who usually count on when making life miserable for Reagan appointees. A modicum of respectability has been added by the inclusion of the minority leader, Bob Dole. As majority leader, Mr. Dole used to insist in these matters on a reasonably prompt test — on the merits.

But Mr. Dole now is running for president. Renamo is a lobbyist papering Congress with geopolitical junk mail. Clearly, right-thinking about Renamo will be made into a litmus test that comes to raising money from conservative sources in next year's campaign.

A preliminary, procedural vote suggests that Ms. Wells would win 56-28 if the question were put to a decisive test. But Mr. Helms and his wrecking crew are threatening a filibuster and the Democratic majority leader, Robert Byrd, wisely wants to have the extra votes that would be needed to limit debate and bring this squish business to a close.

Secretary of State George Shultz has let it be known that he and the president will hang tough. That is their duty, and their right. The Senate's duty is to demonstrate that it is worthy of its right to a reasonable role in the conduct of foreign policy. That means not permitting its power and its procedures to be subjected to such shabby abuse.

Washington Post Writers Group.



LETTERS TO THE EDITOR

The Iran-Contra Affair: An Issue of Legal Boundaries

Regarding the opinion column "Congress Is Invading the President's Space" (May 27) by George F. Will:

The Reagan administration now argues that the Boland amendment [restricting U.S. support for the Nicaraguan rebels] did not apply to the president or the National Security Council. This sounds like a prelude to yet more damaging revelations. The thesis fails on at least two counts.

First, since the president is the executive agent of the law, he is bound to act within its boundaries. That is the law does not apply to the president's fits in the face of constitutional reality. To assume otherwise would undermine the foundation of American government.

Second, the National Security Council is not an operations group. It was created by Congress in the National Security Act of 1947 to serve the president in an advisory capacity. The NSC was not included in the language of the amendment because it is not a legitimate agent of American foreign policy.

Mr. Will says that the president "should long ago have argued that laws like the Boland amendment are not laws; they are unconstitutional." This is a magnificent leap in argument supported only by sentiment, not by the constitution.

It is profound frustration with political opposition that moves conservatives to reach for the constitution. A sound and just policy could be defended on its merits. A sorely contested political issue should not be obscured by such appeals.

For all its wonders, American government is not graced with a precise delineation of authority, particularly in the realm

of foreign policy. Congressional prerogative is fluid, rising and falling in time for reasons of experience, initiative and politics. U.S. foreign policy may not be neat and that is unfortunate, but recent history suggests that unfettered executive supremacy abroad tempts tyranny at home.

The problem with the administration and its apologists is that they are uncomfortable with democracy. The government works best at home and abroad when we deal with the reality of opposition and the necessity of compromise. The test of leadership is to grow stronger in the face of a challenge.

When its spirit is not acknowledged, the law is more conducive to oppression than to justice. This president may have violated the spirit and the letter of the law. I would suggest that the former is the more serious offense.

JOHN GALLACHER
Oxford, England.

The truth is that the constitutional debate over the division of powers has now been conducted for 200 years. The constitution's ambiguity has served the nation well, allowing Lincoln and both Roosevelts, among others, to act unilaterally when the nation's interest required.

When the president is right, events prove him right, and Congress eventually applauds (remember Grenada?). When he is wrong, events prove him wrong. Congress says "I told you so," holds illuminating hearings and then writes legislation to prevent the last war.

May the debate go on forever!

[Name withheld.]

Turin.

Congress, through crackpot legislation such as the Boland amendment, is attempting to control all of the details of foreign policy which, of course, it cannot do. We should all realize by now that a Democratic Congress is playing politics and trying to downgrade the president and the Republican Party, even if it involves tearing the nation apart much to the consternation of our European allies.

MARTIN J. ROESS.
St. Petersburg, Florida.

If aid to the contras did not violate the Boland amendment as the White House now claims, then why was the aid given in such utmost secrecy? If the whole thing was perfectly legal, then why did Colonel North and Admiral Poindexter refuse to testify? And why did the president, who is known to be nearly obsessed with his attempt at overthrowing the Nicaraguan government, not simply come forward and supply the purportedly legal aid?

It is certainly not a fallback position. It's been our position all along," said the White House chief of staff, Howard Baker. Then why do we hear of it only after months and months of public agonizing? This is a sad and cowardly performance that smells of a coverup.

LEONARD SUHL.
Portimão, Portugal.

Regard for Earth's 'Crew'

I find Jonathan Power's opinion column, "Population: Don't Be Frightened by the Numbers" (April 27), to be a very narrow analysis of the problem raised by the world's galloping birthrate.

A world population "growing by

The 'Perfect' Dad's Day Gift: An Embarrassment of Riches

By William E. Geist

NEW YORK — "Subway Vigilante" is a lovely song with a nice melody and a real folksy quality," asserts Ronald Gold, whose group recorded the number, subtitled "The Ballad of Bernard Goetz." "It is sing-

MEANWHILE

able, hummable and danceable — the perfect Father's Day gift."

Mr. Gold is the lead singer of Ronnie & the Urban Watchdogs, a yet to be popular group. He had about 500 records on hand for Father's Day but rush-ordered 10,000 more after the acquisition of Mr. Goetz of all but one charge.

"Subway Vigilante" was just one of hundreds of products touted in advertisements as that "perfect gift for Dad" from lube jobs and lawn sprinklers to Steuben Glass penguins and sterling silver money clips that would leave dad with precious

little to put in them. Dad, after all, often participates in financing these purchases.

One would think that by now some consumer protection agency or other would have swooped down on Father's Day, when hundreds of millions of dollars are spent by children on such gifts. Sometimes mothers, who may still be fuming over the jumper cables they received for Mother's Day, help the children with Dad's Day purchases. There are no laws to stop a disturbed mother from advising the children to buy mesh T-shirts, rum-soaked cigars or "lawn aer-ation sandals" — spiked sandals for casual strolling and lawn aerating.

A bulletin from the National Confectioners Association was headlined, "Survey Says Most Dads Don't Get What They Really Want on Father's Day." Good thing, or it might be the last day they spent in their own homes.

"Seventy-one percent of all fathers said in a national survey that they would like to get candy," said Richard T. O'Connell, president of the National Confectioners Association, "but only 10 percent actually do. Mother's Day confectionery sales topped \$286 million, but Father's Day sales are only about one-quarter of that."

"Our research," he said, "shows that more telephone calls are made on Mother's Day than on Father's Day and that more collect calls are made on Father's Day than on any other holiday."

AT&T officials said about four million more calls are made on Mother's Day than on Father's Day. They could not immediately confirm the shameful collect-call situation, but said that it is widely believed to be true.

Lawn sprinklers and such are fine gifts, Mark Brenner supposes, but Mr. Brenner, the president of the Foot Couch Co. of Manhattan, said that only his invention was the actual "perfect gift for Dad." The Foot Couch is a thing you put under your feet when you put them on your desk. It costs about \$40. "Putting your feet on your desk is in fashion," he said. "It is a sign of calm, casual confidence and power. President Reagan puts his feet on his desk. So do Ted Turner, Paul Volcker, Senator Bob Packwood and lots of others."

"Monarchs of Europe and padshas of the Ottoman Empire put their feet up," he said, adding: "I would sure love to get out of inventory on these things."

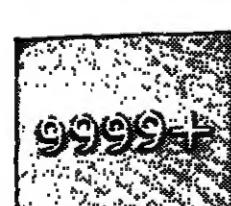
The Foot Couch comes in two models: the elegant "Connoisseur," with a butter-soft leather-top cushion attached to an elegant marble base," and the "Masseuse," a piece of rosewood with a tufted, genuine leatherette top cushion, all of which vibrates.

Mr. Brenner said that, sure, the Foot Couch has a variety of other uses.

Kindling? Disposability, after all, is critical in the perfect Dad's Day gift.

The New York Times

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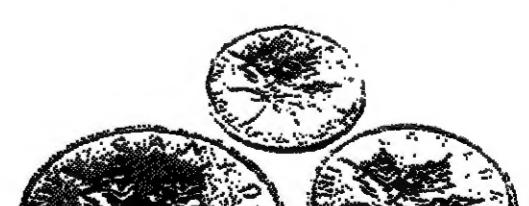
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In Honduras, Jitters on Contras

Nations in Region Are Distancing Themselves From Reagan

By William Branigin
Washington Post Service

TEGUCIGALPA, Honduras — As the Iran-Contra affair drags on in Washington, the prospect of a weakened Reagan administration is causing increasing nervousness in Honduras and other Central American countries, according to diplomats and Honduran sources.

The nervousness is prompting Central American nations friendly to the United States to make a greater effort to distance themselves from Reagan administration policy in their region and from the Nicaraguan rebels supported by Washington, the sources said.

Anxiety among both the Hondurans and the contras stems from a concern that U.S. funding for the rebels will not be renewed or will be severely restricted, leaving the rebels unable to remain inside Nicaragua to press their war against the government. If this happens, the Hondurans would be forced to provide sanctuary for them.

"The Hondurans are reassessing their relations with the United States," a Western diplomat said. "The military for their own reasons are taking a harder line vis-a-vis the contras."

Honduran military authorities are beginning to grow jittery about what will happen when a new U.S. president takes office in 1989 "or maybe even before," said a source close to the Honduran Army. "They don't want to be left holding the bag."

"For us, the important consideration is that the Iran-contra scandal weakens enormously the policy of the Reagan administration in Central America," said Manuel Acosta Bonilla, a leading Honduran lawyer and opposition politician. "This has generated a certain attitude of more independence by Costa Rica and Guatemala toward American policy."

President Oscar Arias Sánchez of Costa Rica has been promoting a Central American peace plan that appears to be causing increased consternation in the Reagan administration. According to diplomatic sources, a recent meeting in Costa Rica with the U.S. special envoy, Philip C.

6 Die as Boat Sinks in India

Agency France-Press

NEW DELHI — Six persons were drowned and more than 30 were missing after a boat carrying at least 81 people sank Monday in a river near Manikpurhat in West Bengal state, the Press Trust of India reported.

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never abandoned its friends. The unwillingness of U.S. officials to talk about a contingency plan left the Hondurans uneasy, Mr. Goldstein said.

"We believe it is completely the decision of the U.S. whether to support the contras or not," he said. "However, if the decision is not to give support, we feel there is a moral obligation on the part of the U.S. government to find a solution for the contras, and not in Honduras. We could not possibly host a frustrated, defeated, armed, angry group of rebels."

Last week three members of a new contra umbrella organization, the Nicaraguan Resistance, arrived in Tegucigalpa for a meeting.

In an apparent reaction against the publicity surrounding the meeting, Honduran authorities asked the three contra leaders to leave and let it be known that three others planning to arrive from Costa Rica should stay home, Honduran sources said.

The Iran-contra hearings, meanwhile, resume Tuesday in Washington following a two-week recess.

COURT:

Brennan in Charge

(Continued from Page 1)

ently was designed to appeal to someone," Mr. Tribe said. It attracted only the chief justice's vote.

"He doesn't seem to be attracting justices to his corner," Mr. Tribe said.

One open question last fall after Chief Justice Rehnquist was confirmed was whether he would moderate his views and move toward the center of the court or continue to be a purist, Mr. Tribe said.

"Now there is evidence strongly in the direction that he is a principled purist willing to give up influence in order to preserve his integrity," he said. "That is an admirable and, for liberals like me, a happy development. It leaves Rehnquist in charge."

Chief Justice Rehnquist was criticized at his confirmation hearings last summer for the frequency of his lone dissents. He was the lone dissenter only twice last year and twice so far this year.

Last year at this time the chief justice had dissented 28 times and Justice Brennan 33 times. This term the chief justice has dissented 28 times and Justice Brennan 36 times.

The difference is that last year Justice Brennan controlled only about 19 opinions in cases when he was in the majority and Mr. Burger in dissent.

This term he has already assigned about 28 opinions. He wrote only 13 majority opinions last term. This term, he has written 16.

Penalty Is Upheld In Bolles Murder

United Press International

WASHINGTON — The U.S. Supreme Court reinstated Monday the death sentence of John Harvey Adamson, convicted in the 1976 bombing murder of Don Bolles, an investigative reporter for The Arizona Republic.

On a 5-4 vote, the justices ruled that Mr. Adamson's protection from double jeopardy was not violated when the state tried him for murder after he reneged on a plea agreement.

The opinion by Justice Byron R. White reversed the 9th U.S. Circuit Court of Appeals, which ruled that Mr. Adamson was improperly put on trial for his life after he had been sentenced to 20 years in prison as part of a plea bargain.

"Islam has been denied all op-

portunity to intervene in secular problems," said Mustafa Filali, a writer with opposition sympathies.

The authorities' response to the crisis has been harsh. Mosques and homes were reportedly raided in the recent roundup of supposed militants. According to Mr. Mestiri, the authorities uncovered a computer disk listing the names of the movement's sympathizers.

The accusations of torture were

repeated in a statement Wednesday

by the Islamic Tendency Movement.

The statement denied collabo-

rations with foreign powers, including

Iran, and said the police had beaten

the group's detained members

burned their hair and poured urine

into their mouths during interrogations.

The government denied the ac-

cusations of torture and said it had

furnished sufficient proof of the

fundamentalists' links with foreign

powers.

Government officials acknowl-

edge that the Islamic Tendency

Movement may have projected a

moderate image, but they say that

was part of a conspiracy cloaking a

violent, long-term desire to seize

power by Iran, whose government,

they say, draws only a slender distinc-

tion between legitimate opposi-

tion and treachery.

■ **Other details:**

Herman H. Berger, 71, a retired

Foreign Service officer who helped

negotiate free trade agreements

with Europe and Japan during the

1950s, June 15 in Bethesda, Mary-

land, of cancer.

The Astaire dance story did not

start at birth, but was begun not

long after that event, which took

place in Omaha, Nebraska, on May

10, 1899. His name was Frederick

Austerlitz, the same as his father's,

a brewery worker and an emigrant

from Austria who during World

War I anglicized the family name

to Astaire.

As soon as the boy could, he

toddled along with his mother to

pick up his sister, Adele, who was

18 months older than Fred, at

dancing school. She was outstand-

ing as a dancer at 6 and it was not

long before their mother, Ann Gei-

les Austerlitz, had Fred studying

ballet there, too, at 4.

A few years later, Mrs. Austerlitz

took the children to New York to

breathe into show business. When

Fred was 10, he and Adele made

their first professional appearan-

ce — in Vanderville — in Keyston,

New Jersey. They went on to be-

come one of the best-known dance

teams in the country.

His first movie was "Dancing

Lady" (1933), with Joan Crawford

and Clark Gable. This was fol-

lowed the same year by "Flying

Down in Rio," in which he ap-

peared with Ginger Rogers.

From that point on, they were

the unconsolable stars of their

films. The only film he made with

Miss Rogers during that time

was "A Damsel in Distress" in

1937 with Jean Fontaine.

From 1940 on, Mr. Astaire made

movies for many studios with many

dancing partners, among them Rita

Hayworth ("You Were Never

Lovelier," 1942), Lucille Bremer

("Yolanda and the Thief," 1945),

Judy Garland, and Ann Miller

("Easter Parade," 1948), Cyd Charisse ("The Band Wagon," 1953) and

Silk Stockings," 1957), and Audrey Hepburn ("Funny Face," 1957).

They can solicit, but anyone is

one; you can; I can; all you need is

a plastic badge."

The Reverend James Bradford of

the United Mission Church, which

rescues many of the city's home-

less, said that many of the men

dressed as priests at Los Angeles

International Airport were recruit-

ed on Skid Row by an entrepreneur

who outfitted them.

A guy dressed like a priest in a

busy place like an airport can take

\$100, \$150 a day," he said. "But

they're hurting legitimate people

trying to help the homeless. They're

frauds and they're killing us."

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ARTS / LEISURE

Kassel's Disappointing 'Documenta'

By David Galloway

KASSEL, West Germany — Located within pea-shooting distance of the East German border, this seems an improbable destination for the cultural pilgrimage. Described Kassel as "a dead-end little city, drowning in the agricultural riches of the German outback." Nonetheless, an estimated 500,000 visitors are expected to find their inconvenient way here in the next three months.

Few will have the Brothers Grimm Museum at their goal, and fewer still the nation's only wallpaper museum or the bizarre wood museum. Those are year-round attractions, but the mammoth art spectacular called Documenta is staged only twice a decade. In its eighth incarnation, the world's largest show of contemporary art features nearly 200 participants. This time, painting and sculpture are complemented by architecture, design, electronic music and video.

Sculptures and installations are scattered throughout the city, but the real nucleus of Documenta 8 is found in two historic buildings: the Museum Fridericianum and the Orangerie. The former witnessed the birth of Documenta in 1955, as an attempt to close the modernist gap the Nazis had left behind. Though severe wartime damages were only temporarily repaired, the Fridericianum seemed the ideal setting for such an experiment. It had opened in 1779 as Europe's first public museum.

The spirit of improvisation and discovery that the early Documentas a dynamic that can hardly be recaptured today. Audiences are better informed, harder to shock, and

want to take art marathons in stride. The Fridericianum, too, reflects the changing times. The recent and radical renovations have produced a warren of concrete halls and cubicles that would better serve as the bottle-washing plant for a local brewer. In erecting temporary walls within this cheerless shell, the outraged architect for Documenta 8 turned the entire installation three degrees on its axis. Passing from one room to another, visitors thus have unexpected glimpses of the back-stage horrors.

By ripping out the massive central staircase, the renovators deprived the Fridericianum of any architectural logic. The upper stories are reached via a series of side stairs that often end in blank walls. As though willfully collaborating with this Mad Hatter principle, the director of Documenta 8 has selected a theme that even his most ardent supporters are hard-pressed to clarify. "Art," said Manfred Schneckenburger, "has found a new relationship to history and society."

Theoretically, at least, Documenta 8 should demonstrate that thesis. In doing so, it understandably excludes the gestural, autobiographical, neo-Expressionist works that dominated Documenta 7. Yet it includes the lyric abstractions of Gerhard Richter and the stone monoliths of Ulrich Rückriem, which seem conspicuously remote from any socializing tendency. History is painfully present, on the other hand, in the dubious painting-assemblages of Robert Morris' overpaintings, in fact, of photo enlargements of the most horrifying scenes from liberated concentration camps.

The relevance to society is perhaps best

illustrated by a new generation of sculptors who have adapted the form-language and materials of architecture — by definition, a more "public" medium. (Yet three of the best of those "constructors," including the brilliant Reinhard Mucha, were excluded after nasty political strife with the Documenta 8 direction.) Such achievements are paralleled, in turn, by the triumph of aesthetics over functionalism in post-modern architecture. The decision to include architects like Hans Hollein and Arata Isozaki was surely correct, but their presentation manager to muddy more issues than it clarifies.

Nonetheless, there are refreshing discoveries to be made, and most of those in the form of video or electronic installations. The American Jenny Holzer has produced a mausoleum-like setting: a pair of granite slabs bearing the same "home truths" that run over digitalized light-boards mounted vertically on the wall. Despite the funeral atmosphere, hers is a world of absolute authority — spare, poetic, provocative.

Similar qualities distinguish the work of Belgian artist Marie-Jo LaFontaine. She has created a wall of 27 television sets that suggest a railway trestle or, perhaps, a triumphal arch. The video film that plays over this monumental field shows body builders straining toward physical perfection. These are not muscle-bound hulks but the clear-browed youths of Aryan fantasies, as they might have been dreamed by Hitler's favorite director, Leni Riefenstahl.

LaFontaine works exclusively in black and white, but achieves with it a depth and richness approached only by the best vintage

photograph. There is no European video artist who commands this virtuoso mastery of craft. Even Nam June Paik, who presents a superb video homage to Joseph Beuys, seems quaintly old-fashioned in comparison.

Beuys's provocative posturings might have lent this exhibition the cutting edge it lacks. Yet the great shaman is not entirely absent.

In addition to Paik's tribute, there is an impressive ensemble of bronzes cast from Beuys's last major installation, "Lightning with Star in its Glare." Furthermore, Documenta 8 was opened with the planting of the last of 7,000 oak trees that the artist began as an environmental action at Documenta 7.

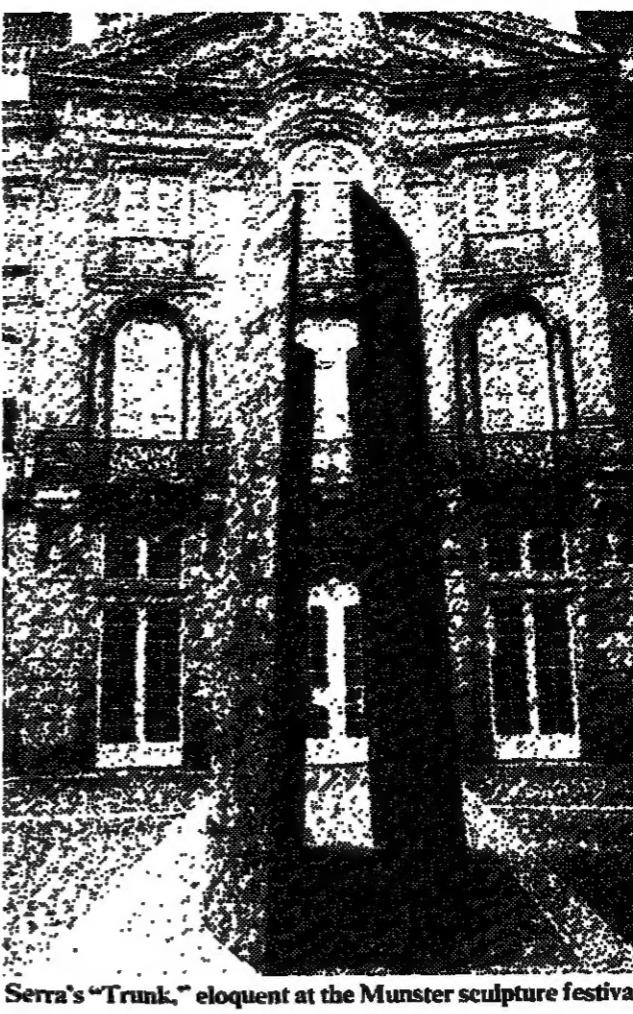
If plucking the raisins from Kassel's indif-ferent fruitcake is insufficient reason for visiting Germany's frontier outpost, a stop in Münster more than compensates, to visit its open-air sculpture festival. Fifty international artists have selected their own sites and planted their own fantasies within the city.

Richard Serra's work has never looked more eloquent or persuasive than it does before the baroque palace of Erbdrostenhof. And on the lawn beside the local music school, Keith Haring's familiar mutt howls at the sky. It is the graffiti artist's first major venture into sculpture.

Wandering in the city, map in hand, or renting a bicycle to see the artistic sites, visitors can regain the sense of discovery that was once synonymous with Documenta.

"Documenta 8," until Sept. 20. "Sculpture Projects Münster," until Oct. 4.

David Galloway is a writer and professor based in West Germany.



Serra's "Trunk," eloquent at the Münster sculpture festival.

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Cantonese Opera, Caught Between Past and Future

By Nicholas D. Kristof

New York Times Service

HONG KONG — A little 72-year-old who still exults in his back flings, Sun Marcial is the lord of Cantonese opera. An energetic man whose hands flutter through the air as he speaks, Sun packs theatergoers with his fans, who are often so overwhelmed with his grace and singing that they throw rings and necklaces and money upon the stage after a performance. His dominance of Cantonese opera makes Pavarotti seem like a flash in the pan.

Not everyone is so impressed, however. His 9-year-old daughter confesses that she does not like Cantonese opera. She prefers Alan Tam, the Hong Kong pop singer, whose melodies resemble rock songs everywhere. "She likes Cantonese opera, she likes it," said the father. "I don't like it, I don't like it," said the daughter.

And therein lies the challenge for Cantonese opera, and indeed for much of Chinese culture: How can traditional arts such as opera or calligraphy, which flowered with

one of the world's greatest civilizations, attract today's generation of denim-clad Chinese, seduced by Western songs, films and way of life?

To a foreign ear, Cantonese opera may be a musical experience rivaled only by a classroom of second-grade maestros scratching their fingernails on a blackboard. Yet, if the singing is an acquired taste, the grace and subtlety of movement impress even the most callow observer.

Like its northern cousin, Peking opera, Cantonese opera combines a libretto that borders on poetry with magnificent costumes and choreography. The movement and makeup in Cantonese opera, however, often seem more natural than those of Peking opera. And Peking opera is performed in Mandarin Chinese instead of the Cantonese dialect spoken in Hong Kong.

Older people in Hong Kong still love Cantonese opera, and prize it as the bulwark of traditional culture. Its heyday, in fact, came during this century, from the 1920s to the 1950s. At a government-subsidized performance this month in a Hong Kong gymnasium, opera-goers, many of whom could remember foot binding and Imperial China, began lining up more than an hour before the performance and filled every nook of the auditorium.

"Young people don't like to see Cantonese opera; that's left to old folks like us," said Sin Ngmkwan, a tiny 84-year-old woman with hollow eyes and memories of the opera she saw as a girl growing up in Guangzhou as Canton is now known.

Young people spurn Cantonese opera partly because of its complexity and subtlety — which, to others, are its virtues. Every gesture, every swish of a long white sleeve, every turn in the painted faces conveys meaning. A whip in the hand means that the actor is riding a horse; a red face suggests righteousness and a white face, craftsmanship.

Therefore the dilemma for Cantonese opera is whether to maintain

traditional purity, or to make opera more accessible by modifying it. In essence it is the same question that Western culture faces: Should Shakespeare be translated into a modern idiom, or, can an Italian opera be performed in English? Without adaptation, traditional cultural achievements — such as Tang Dynasty poetry in China or Ovid's Metamorphoses in the West — tend to wither in influence.

The quandary may be particularly acute in the Chinese world, where conformity to artistic tradition plays a greater role than in the West. Chinese painters, for example, traditionally copied the exact works of their masters over and over.

In the United States, it sometimes seems as if every 25-year-old director feels obliged to interpret Sophocles in a radically new way, often a tribute more to imagination than to judgment. In the Chinese world, on the other hand, the artist feels obliged to follow his elders.

Cantonese opera, which dates from the first half of the 18th century, has changed in some ways. Early in this century many libretti were written in colloquial language. Western instruments are sometimes found in the orchestras. Sets are more elaborate, and microphones are common. "It is good to change, to keep good elements while allowing others to die out," said Leung Pukuan, an expert on Chinese opera at the Chinese University of Hong Kong.

Cantonese opera originated with troupes who wandered from village to village, performing in the streets or in teahouses. Even today, Cantonese opera is more the Oriental equivalent of vaudeville than of Western opera. In Hong Kong, an opera is a casual evening out, to which the Chinese wear old clothes and perhaps gnaw on a chicken foot during the performance.

Western opera connotes sophistication to people who might feign enthusiasm even if they do not feel it.

But the folding chairs, constant chatter and discarded chicken



Every tint in the makeup conveys meaning.

bones in the audience of Cantonese opera suggest to some young people a legacy that is more embarrassing than inspiring.

Today the greatest cultural stars in the Chinese world are pop singers like Alan Tam and Anita Mui, whose rock music is based on Western and Japanese styles; or celluloid heartthrobs like Jackie Chan, a martial arts expert who is Hong Kong's most eligible bachelor.

Cantonese opera buffs scoff at the crooners, just as devotees of Bartók or Brahms may be put off by Bruce Springsteen or Barbra Streisand.

While some young performers

study Cantonese opera, there are no sweeping attempts to reinterpret the medium. Few new librettis are

written today, and no Arthur Miller has appeared to substitute modern themes and everyday people for the old folk tales, kings and generals that usually dominate the operas. Even the younger students of Cantonese opera sometimes regard it as only a sidelight.

Tin Kitwan, a 25-year-old woman who has been studying Cantonese opera for three years, said that the field did not pay well enough these days to attract her as a career, so she will pursue Cantonese opera only part time.

"I want to be a star," she said, "but a part-time star."

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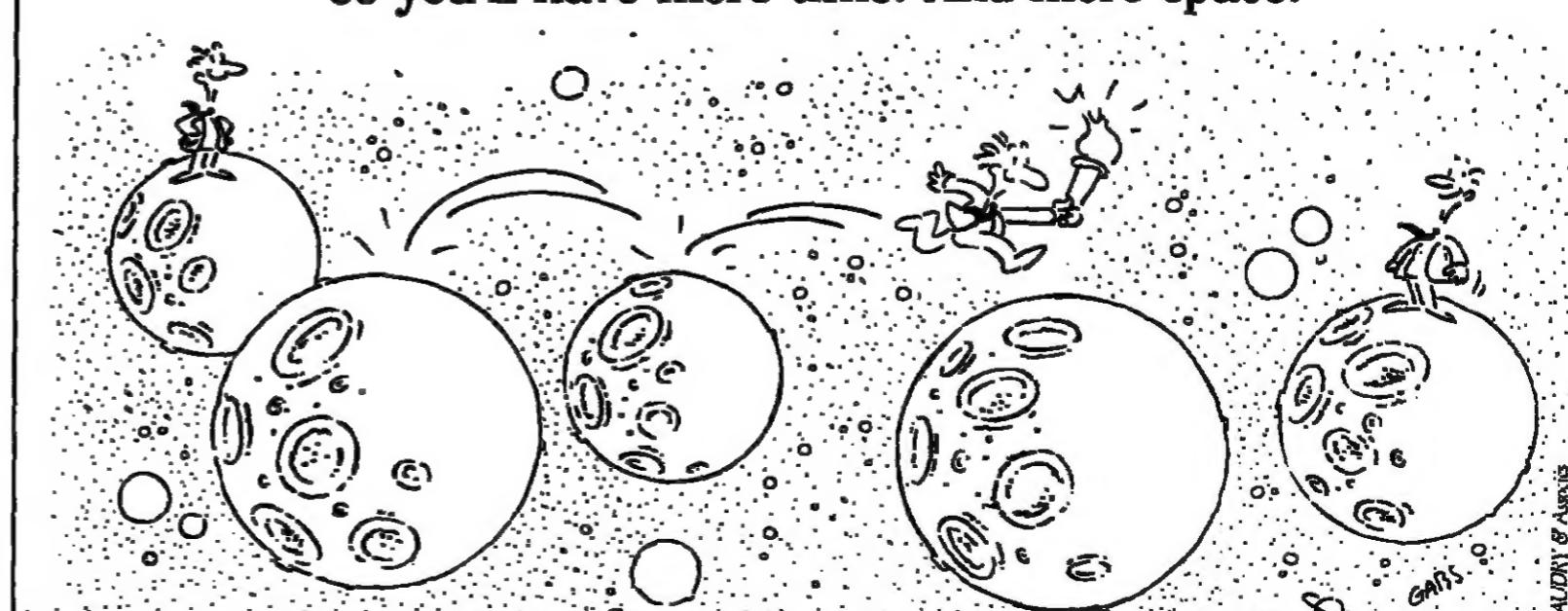
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DOONESBURY



Pyramid Corridor Find

Agence France-Press

Cairo — Japanese researchers may have found part of a corridor leading to the queen's funerary chamber in the Cheops pyramid, the semi-official Al Ahram daily said on Monday. Al Ahram quoted the head of the Egyptian Antiquities Office, Ahmed Kadi, as saying that the discovery was made by a team from Tokyo's Waseda University, and had revealed the existence of a cavity near the queen's funerary chamber.

The researchers used an electro-magnetic device to sound the depth of the pyramid as far as 10 meters (33 feet) deep. A more sophisticated device capable of sounding the depth of the pyramid as far as 100 meters was needed to confirm the finding.

Kadi added that Egyptian scientists would meet with officials of the Ministry of Scientific Research to discuss the future of these findings "considering the importance they represented."



BALDWIN & ALEXANDER

5

Technology Quarterly

Issue No. 1

DEPARTMENTS

Research

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New York to Tokyo in three hours? More than fantasy, that is what aerospace experts are planning with the superfast hypersonic planes of the future.

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In a thermonuclear war, detection of noise produced by the propeller of a single missile submarine could prevent the destruction of scores of cities. That's why a recent sale of Japanese technology to Moscow has helped sour U.S.-Japanese relations. The details.

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Just when you thought you had the very latest in audio-video equipment, you're hopelessly out of date. The latest must-have product: compact disc video.

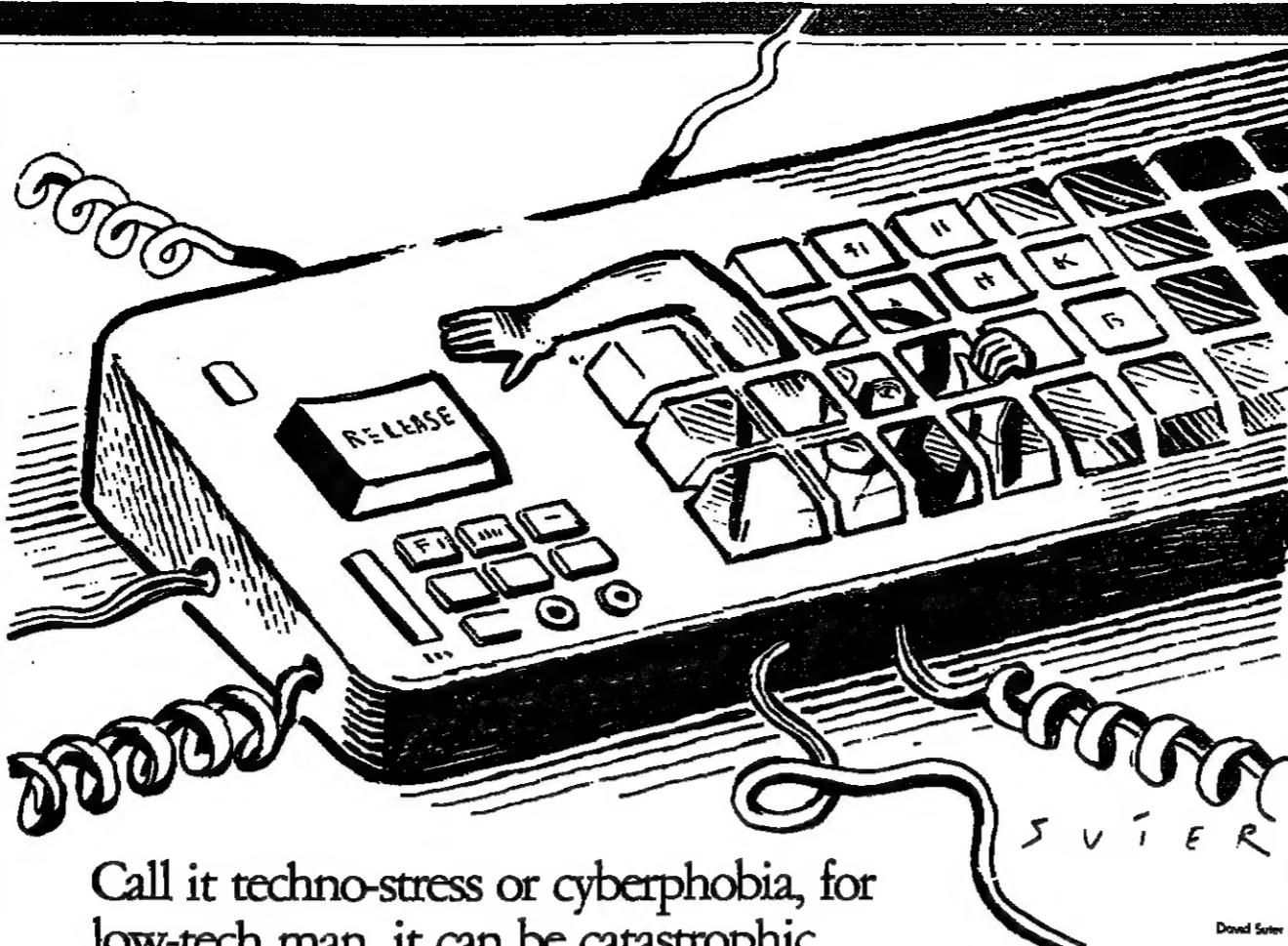
Interview

11

To most mortals, the limits of space are as short as the imagination. To Patrick Baudry, a French astronaut, the concept of conquering space is as long as several millennia and defined only by the limits of the human mind.



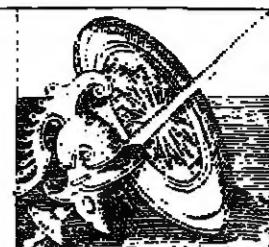
Down to Earth: Patrick Baudry signing autographs.



Call it techno-stress or cyberphobia, for low-tech man, it can be catastrophic.

Live-in-Bed Research Prepares Spacemen For Flight to Mars

Experiment simulates long-term exposure to weightlessness.



By Kathy Sawyer

WASHINGTON — At a special facility in Moscow, a dozen healthy volunteers have just completed one year of lying down — and in fact living — in bed at a 6-degree, head-down slant.

In the United States and France, other groups of volunteers have endured the same conditions for much shorter periods, ranging from a week to three or four months.

These volunteers are guinea pigs in a most difficult, and increasingly crucial, area of space research: How do people stay healthy and able to function for long periods in the unnatural weightless environment of space?

The search for answers to this question is intensifying, spurred by increased international interest in a manned mission to Mars, a voyage that will require humans to function in space for eight months in transit each way and, between, on the surface of Mars.

Soviet officials have indicated that they intend to carry out such a mission early in the next century. In the United States, the independent National Commission on Space has recommended a manned Mars flight by the year 2015 and the government, although uncommitted, has stepped up its research.

While the technical challenges are formidable, there are also considerable physiological stumbling blocks. After millions of years of adaptation to gravity, the human body in the weightless state quickly develops a number of problems, according to researchers.

The body starts to get rid of fluids; the heart starts pumping 15 percent less blood and so must beat faster to keep up; the muscles, no longer resisting gravity, begin to atrophy, and the bones start to lose calcium almost immediately. In addition, half of all space flyers develop motion sickness for up to four days at the beginning of a flight, a condition that may return toward the end or even after the flight is over.

"We know the major physiological changes that take place over two to four weeks, but we do not understand the mechanisms underlying all these changes," said John Billingham, chief of the life science division at the National Aeronautics and Space Administration's Ames Research Center in California.

"And the key thing is that we do not know the extent to which these changes will continue to progress over longer and longer periods of weightlessness."

Reproducing the effects of weightlessness on the ground is difficult, he said. "The only effective way we have of doing so for long periods is to put people in the horizontal position."

Researchers around the world have adopted the 6-degree, head-down slant as the best way to simulate many of the effects of weightlessness on the body, he said. The position is maintained using methods developed for chronically ill hospital patients, with the aid of a nursing staff. Volunteers are allowed to prop themselves up on one elbow to eat. They shower in bed using hand-held nozzles, and they use bedpans, Mr. Billingham said. If they exercise, they do pushing or bicycling workouts in the prone position.

Ames has conducted studies of up to a month, he said, and a bed rest program at NASA's Johnson Space Center in Houston

Continued on page 11

To Our Readers

WITH this first issue of Technology Quarterly, the International Herald Tribune expands its coverage of the world of high technology.

Four times a year, in June, September, December and March, Technology Quarterly will report on research, trends and developments — from home electronics to robotics, exotic new materials and beyond.

In this issue, we explore man's (and woman's) ability to adapt to technology, at home, in the workplace and on the way to Mars.

On Sept. 22: The next issue of Technology Quarterly will report on integrated systems for global manufacturing, computer applications in the art world, the new car models and more.

Innovative technology from AEG. Here's more:

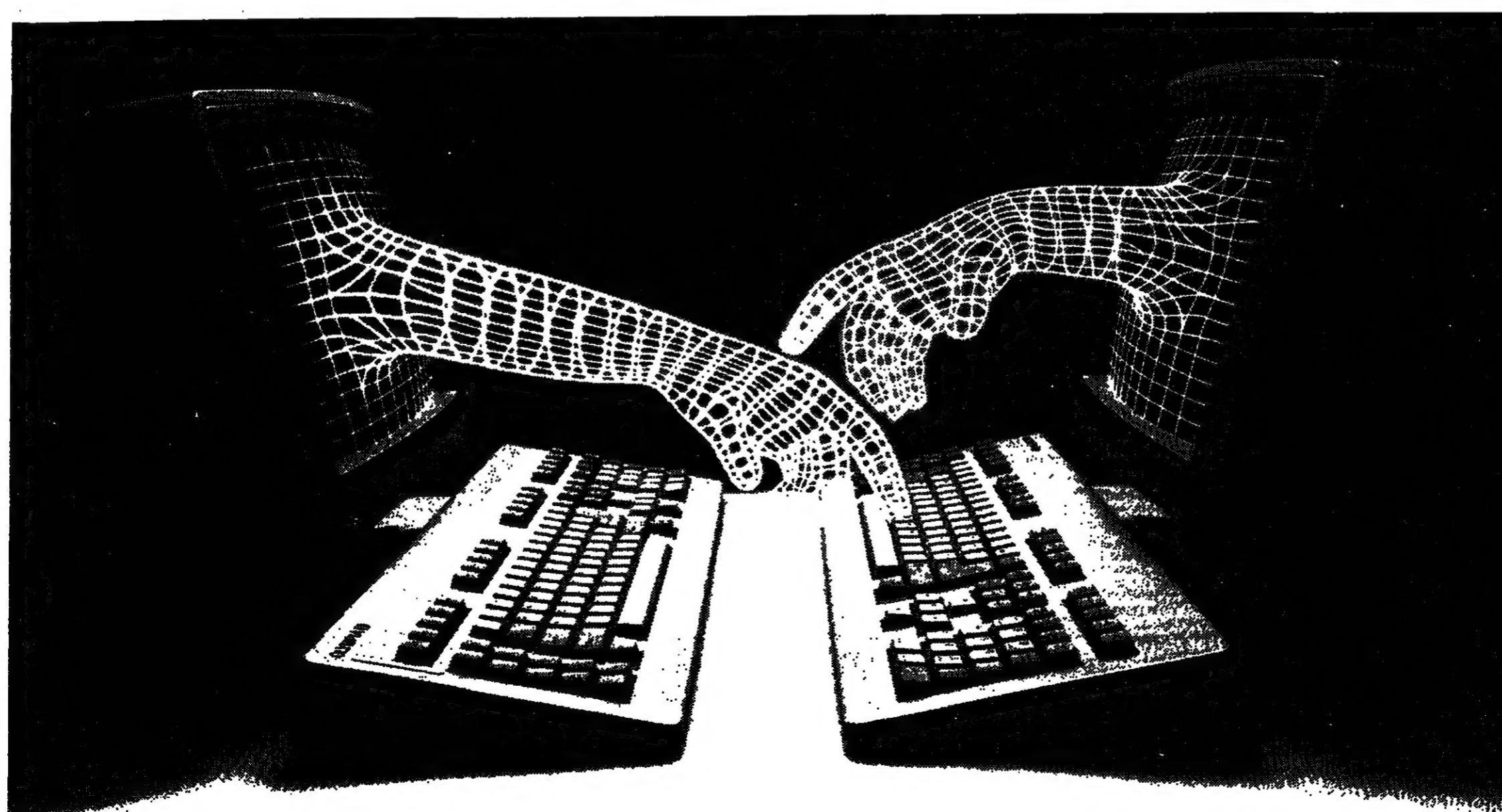
We currently have, under test, an automatic speech recognition system which will turn computers into "listeners" as well as "thinkers". Future generations of computers will take direction from the human voice, not the keyboard. The result? Simplified interaction between human and machine, and expansion of computer applications.

AEG has already brought to market stoves which "cook cold". These technological wonders are induction stoves which collect heat in the pot rather than the cooking surface. The stove turns itself off when the pot is removed or emptied. The result? Greater safety and appreciable energy savings.

AEG software engineers have developed a CAD (computer aided design) software package that itself is capable of designing the circuitry and wiring plans for a huge factory. This unique program can do little jobs, too. Speed and accuracy in this type of work means big savings.

AEG

The electronic factory: teaching machines to like one another.



Electronic intelligence from AEG lets various machines in a manufacturing plant actually communicate with one another. We call it "flexible automation." And, just as with people, machines working together mean increased production, lower energy costs and improved quality. And the real people get to take up more challenging jobs.

TechnologyEssay

As the Dream Machines Arrive, the Neural Nightmares Get Worse

Continued from page 9

"Some experiences are bumped out of the storage line. Some just remain because they are important and stressful, but they remain in an incomplete mode of processing," he added.

In time, he said, "people have larger and larger loads of unfinished business. When this gets too great, it begins to affect their subjective experience, interrupting concentration with intrusive images, their sleep with anxious wakefulness or troubled dreams, and their capacity to love and enjoy experience with an impatient restlessness to go on superficially to still the next thing."

We can't even cool down with our so-called leisure time consumables, since managing today's mega-tech chattels is itself a full-time job. Want music? You'll have to brave a multimodular stack of controls resembling the command deck at a nuclear power station — and understand scanning FM multiplexers, CD laser-readers, Dolby damping filters, super tweeters and subwoofers.

Video? A living hell. The single most prevalent neurosis in middle-class life is "hook-up hysteria" caused by VCR machines. Everybody buys one, but nobody can install them.

We use computerized hydraulic exercise ma-

chines that look like something out of Torquemada's back room; a Krups coffeemaker has a timer program you could use to run a NASA launch. In fact, the superfluity of choices is itself a major source of anxiety. Your ordinary clothes washer has several dozen option combinations: cable TV carries 72 channels; and by the time you've set the controls on that "relaxing" white-noise generator, you're too

worse yet, devices that were once largely self-explanatory are now impenetrably baffling. Car dashboards look like an aerial view of Las Vegas at night. And woe to the yoman who opens the hood. Gone is the familiar air cleaner, the venerable carburetor itself — replaced by a hydraulico-demonic tangle of injector hoses and turbo-tech that only an abdominal surgeon could love. Ditto for so many of the intuitively comprehensible gizmos of yesteryear.

"Any child of 50 years ago," writes Bernard Dixon, a microbiologist, in the journal of the New York Academy of Sciences, "looking inside a household clock, with its escapement and weights or spring, could see in a few minutes how it worked. A child of today peering at a digital watch can learn nothing." Consequently, he warns, we are developing a "black box" mentality — "an unease born of

the suspicion that events have actually moved beyond our power to affect or even to comprehend."

Nowhere is this more evident than in the very real neuropsychological strains of the modern workplace.

Several years ago, the National Institute for Occupational Safety and Health began to include psychological disorders on its list of leading work-related illnesses and has set a high priority on stress-reduction in U.S. offices. Among the top debilitators are clerical work involving computers and video display terminals (VDTs), which, the institute found, produced a higher level of tension than air traffic control.

A new study from IBM's Watson Research Center shows that people still read faster and more accurately from paper than they can from virtually all computer monitors now in use. To achieve equal performance, IBM's research shows, users need CRTs with roughly twice the resolution now generally available.

But don't count on a new screen this year. Even at user-friendly AT&T, a company consultant conceded at a recent symposium, "it is difficult — often impossible — to reverse prior [production] decisions on the basis of human factors considerations."

Meanwhile, modular office designs and pri-

vacy panels cut employees off from wholesome social byplay, and because the technology favors discrete-task equipment run by specialists, workers get less variety and more machine-paced repetition. Thus, writes Philip Kraft in Computerworld, the "office of the future is no more than an attempt to make the office of the present look like the factory of the past."

WERE that not enough, the beleaguered document-jockey is now beset by the most relentless surveillance in the history of corporate snooper. Thanks to cybernetic oversight, management can easily meter the precise number of minutes an employee works, tally breaks down to the millisecond, count outgoing phone calls and obtain an immediate readout of a worker's productivity compared to that of his colleagues.

Word-processing software can monitor how many keystrokes an operator expends on a given document and track the amount of time spent on revision. And several U.S. companies are now using programs that display selected messages on workers' computer screens, from pop-up "flash card" reminders to flickering subliminal suggestions that last only 1/100th of a second.

It is no surprise, then, that in the United

States workmen's compensation claims based on job stress have more than doubled since 1980 and now account for about 15 percent of all occupational disease claims. A 1985 University of Georgia study of workers in 18 public and private sector organizations found that 45 percent suffered from some form of psychological burnout.

Recent surveys by the National Association of Manufacturers indicated that the highest stress ratings derived from lack of appreciation, job instability, social isolation at work and ambiguous job descriptions.

All this at a time when more is being asked of workers every year. "The more sophisticated we make our factories," said John Clancy, president of McDonnell Douglas Manufacturing Systems Co., "the more dependent we become on the sophistication of people who run them."

Too bad. When it comes to scientific literacy, the average American ranks only slightly above gerbils. In a national survey conducted in late 1985, the National Science Foundation discovered that just 31 percent of U.S. adults comprehend radiation, 24 percent understand what software is and barely 20 percent think they know how a telephone operates. But don't count on it.

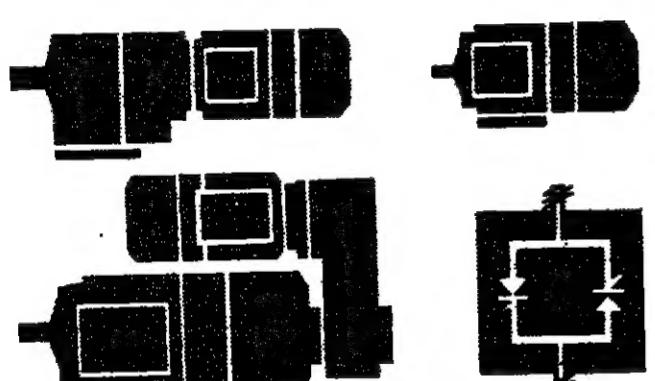
The study also found that 40 percent believe

CURT SUPLEE is an editor for the Outlook section of The Washington Post.

MANNESMANN DEMAG

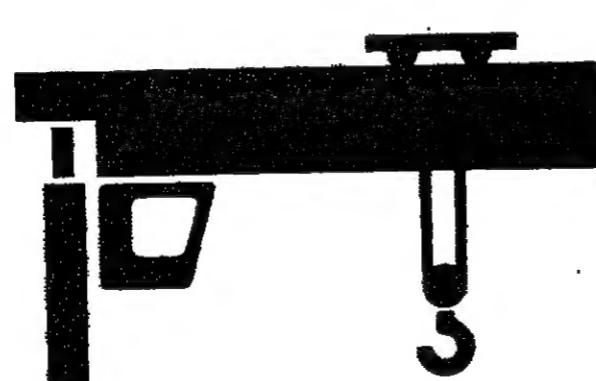
Innovative and technically leading

Machinery, Plant, and Systems



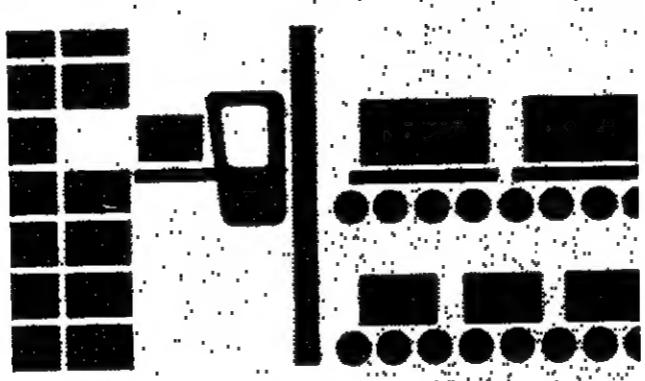
Material handling components

Electric motors, control systems, hoists and travel units, control pendants, busbar lines



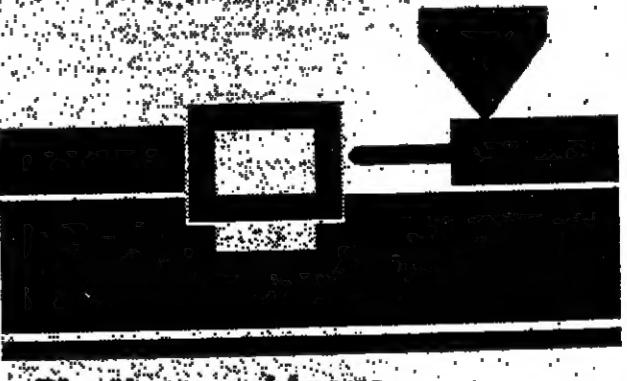
Cranes and handling equipment

Cranes, load handling attachments, storage and retrieval machines, handling systems, controls



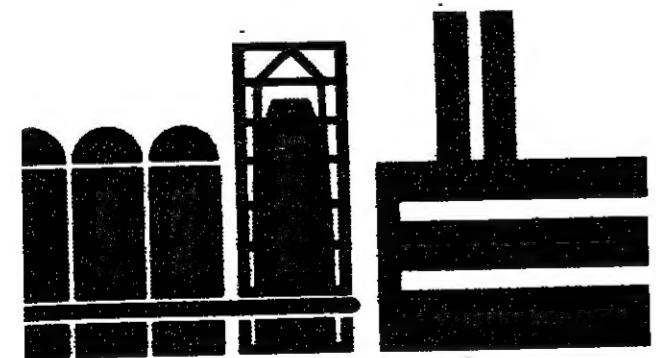
Systems engineering

Storage, order-picking and material transport systems, planning and implementation of integrated material handling installations



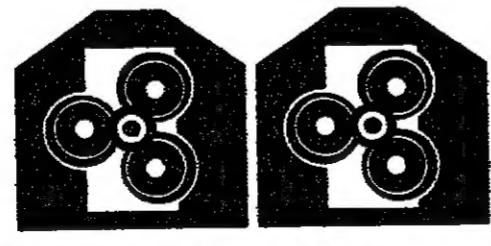
Plastics machinery

Machines and integrated injection moulding systems



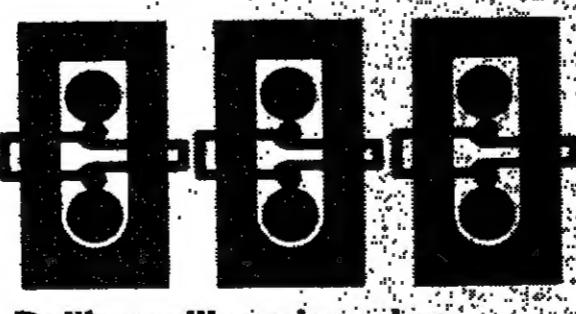
Metallurgical plant and equipment

Integrated works, blast furnaces, steel-making shops, secondary steel-making equipment, continuous steel casting machines, electrometallurgical facilities



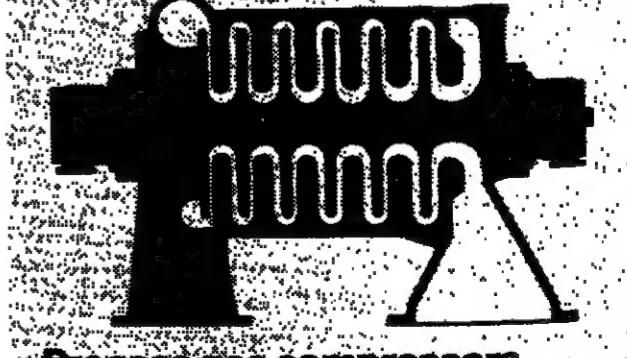
Tube and pipemaking facilities

Plant and machinery for the production of seamless and welded tubes and pipes and hydraulic presses



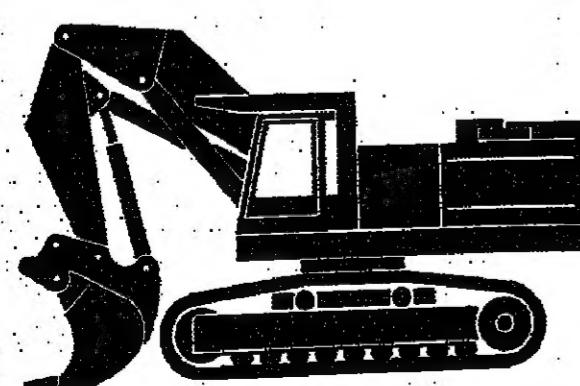
Rolling mill engineering

Rolling mills for sections, beams, rod, strip, plate and sheet, and strip processing lines



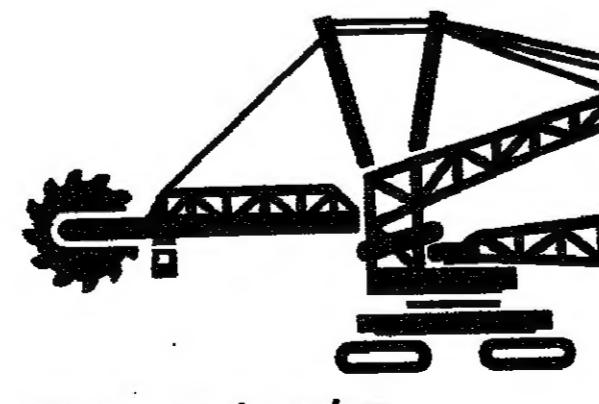
Process gas compressors

Dynamic or positive-displacement machines for air or industrial gas compression, and vacuum pumps



Construction equipment

Hydraulic excavators, cable-operated hydraulic excavators, pavers, side finishers



Mining engineering

Open-cast mining equipment, bulk handling equipment, large hydraulic excavators, tunnel-heading and shaft drilling machines, shaft winding systems



Mobile cranes

Lattice-boom and telescopic cranes, pneumatic tire- or crawler-mounted; harbour cranes, industrial yard cranes



Pneumatic equipment

Compressors, equipment and components for the construction and manufacturing industries

Joyce 150

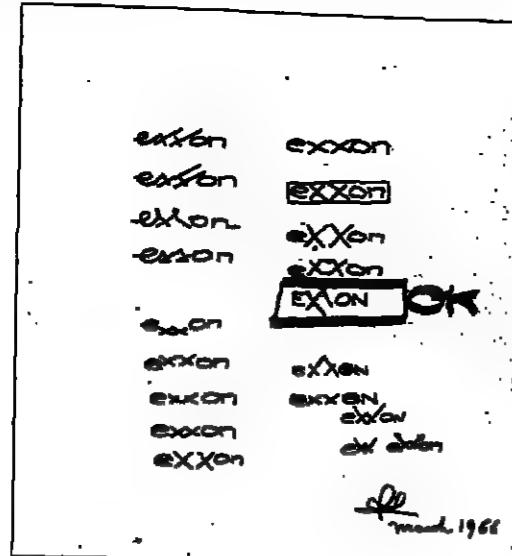
Technology Research

NOTEBOOK

The Loewy Look

Technology in the post-war era inevitably carries the stamp of Raymond Loewy, the late designer who changed the face of products from Coca-Cola dispensers and toasters to television sets and cars and set the pace for industrial design from the '50s onward. On Saturday and Sunday, more than 300 of Loewy's drawings, watercolors, objects, models and manuscripts were sold to the highest bidders at an auction in Rambouillet, France.

A signed gouache of Air Force One, designed in collaboration with President John F. Kennedy, brought 51,000 francs, the highest price at the auction. A sheet of eighteen felt-tipped doodles that resulted in the Exxon logo sold for 3,500 francs. (IHT)



Networking Fees

The Federal Communications Commission is proposing that companies offering online data transmission services through local telephone loops in the United States — for example, Compuserve, The Source, QuantumLink, Telenet and Tymnet — should pay a special "access fee" to hook up to the phone network. These access charges could run to \$5 an hour per user.

The commission makes voice-communications companies such as MCI and Sprint pay an access fee to hook up to local phone lines. Data-communications companies had thus far been exempt from such charges.

The FCC believes that everybody who uses a local exchange for interstate service should help pay for it with an access charge," said Ruth Milkman of the FCC. "Everybody who uses the network should have to pay."

The proposal, which may become law next year, exempts the largest private data networks, those run by companies such as Ford Motor and Boeing Aerospace. Though these networks are ostensibly private, they are often linked to local telephone loops through the company's switchboards. (WP)

Airless Spare

For a motorist with a flat tire, few experiences are as dismaying as the discovery of a deflated spare. Enter researchers at the Uniroyal Goodrich Tire Co., who are developing what they believe is a workable airless spare.

The new Uniroyal Goodrich spare tire is made of polyurethane, a synthetic rubber polymer used as foam in mattresses and in more rigid forms as automobile bumpers and skateboards. Unlike conventional rubber spare tires, the polyurethane tire is non-pneumatic — that is, it is not filled with compressed air.

General Motors hopes to include them as standard equipment in all new cars as soon as approval is granted by the National Highway Traffic Safety Administration, perhaps in a couple of years. (NYT)

New Ventures

In venture capital circles, recent breakthroughs in the esoteric field of superconductivity are sparking visions of new riches.

At least one new company has already been formed. Tentatively named the American Superconducting Corp., it will use seed money provided by American Research and Development of Boston and Rothschild Ventures Inc. of New York, two leading venture capital firms, to take the first steps toward developing a business based on the work of Gregory J. Yurek and John Vander Sande, two professors at the Massachusetts Institute of Technology.

They disclosed at a congressional hearing last week that they had developed a method to make the new superconductors out of metal, which would make them far easier to manufacture than the brittle, ceramic-based materials developed by other researchers. (NYT)



Biomagnetic Technologies' neuromagnetometer uses superconducting materials.

Paris to Tokyo in three hours? More than fantasy, the hypersonic jet is approaching reality.

Visions of Soaring at Mach 5

By Axel Krause

PARIS — The year is 2015. About 150 passengers have just been escorted past advanced Airbus, Boeing and Concorde aircraft at Charles de Gaulle Airport. Most apprehensively, they file into a gleaming, smooth-sided, delta-wing plane now ready for the three-hour flight to Tokyo.

Shortly after takeoff, riveted to their seats, passengers are told that the world's first hypersonic plane is "actually" flying — at an altitude of 18.5 miles (30 kilometers) at nearly seven times the speed of sound. Late, slightly groggy, they step off the plane in Tokyo, carefully avoiding contact with the fuselage, whose temperature is still at about 500 degrees centigrade (932 degrees Fahrenheit). Some passengers say they are looking forward to the return flight to Paris later in the day.

Such a scenario, once a matter of dreams and sketches, is approaching reality. In the United States, Britain, West Germany, France and the Soviet Union, teams of engineers are working in secrecy to develop technology for hypersonic passenger planes, including advanced engines, fuel, materials and communications. Senior executives of leading plane manufacturers and Western governments are, meanwhile, debating trans-Atlantic cooperation as a way of financing. The key question: Could they ever be profitable?

Hypersonic aircraft was the center of guarded talk at last week's Paris air show, where brief, broad descriptions of projects were readily available at the stands of the main players. These include: Aérospatiale of France, British Aerospace PLC, Messerschmitt-Bölkow-Blohm, or MBB, of West Germany, Boeing, McDonnell Douglas, Lockheed and Rockwell International of the United States.

Even at today's prices, the costs sound exorbitant. For example, airline analysts estimate a round-trip ticket would have to be set at a rate more than double the price of a seat on the Paris-New York Air France Concorde, currently 27,180 francs (\$4,510).

Development costs of a hypersonic plane would easily reach \$20 billion, according to U.S. companies. But hints of answers are beginning to surface on this score as well. Lou Harrington, a senior vice president at McDonnell Douglas, says he hopes his company could cooperate with Boeing, Airbus Industrie of Western Europe and smaller manufacturers like Fokker NV of the Netherlands to develop the aircraft.

Future trans-Atlantic cooperation was strongly endorsed by ministers from Britain, France, West Germany and Spain at the air show. The U.S. government has not yet taken a position on such cooperation.

"There is a market, limited perhaps, but it's there," commented Alan R. Hughes, a marketing vice president for British Aerospace. "Regardless how I fly to Sydney from New York or Washington today, the trip is 24 hours. If a hypersonic gets me there in two hours for an urgent business appointment, that would make sense, because time matters."

But so does technology — both civilian and military — which most industrial and government planners view as the immediate and most difficult hurdle when assessing its components. These include the following:

- **Engines.** Currently, the world's fastest aircraft, the Concorde and the West European Tornado fighter and Lockheed's Blackbird reconnaissance plane, cannot exceed Mach 3, or three times the speed of sound. Engine makers are pursuing solutions that would permit speeds of up to Mach 25. Most generally agree with the approach of General Electric of the United States, which would combine turbofan and so-called ramjet technology. GE is also working closely with France's

state-owned Snecma exploring other possibilities, such as combining the use of hybrid turbo-ramjets, ramjet-rockets and turbo-ramjet rockets.

Ramjet engines, which were first tested for the German Luftwaffe near the end of World War II, contain no moving parts and would be used once the aircraft attains Mach 3, based on the following principle: Air for oxidizing the fuel is continuously compressed by being rammed into the inlet by the high speed of the aircraft. High-bypass turbofan engines, resembling current models, would be used to generate power that did not conflict with noise and pollution requirements up to about Mach 2.

While cruising, a transition period would last up to Mach 3, according to scenarios of Aérospatiale and MBB. Then, the turbofans would be shut down, as the ramjets powered the plane to higher speeds, possibly with the help of rockets.

The West German Ministry of Research and Technology and the European Space Agency recently commissioned MBB to pursue propulsion technology based on the so-called Sanger project, a proposed two-stage space aircraft. This was the work of a German designer, Eugen Sanger, who developed the idea for a rocket-propelled aerospace plane in the early 1940s. According to MBB, its version could carry about 250 passengers at speeds of about Mach 5 with a range of about 13,000 kilometers.

Meanwhile, British Aerospace has begun testing a model of an engine designed for its proposed Hotel spaceplane, a reusable shuttle transport that would attain speeds of up to Mach 5. First versions of the Hotel would be used as early as the late 1990s for space missions, but later, they might be developed for commercial transport. A goal in the recent testing was evaluating re-entry heating and pressures, according to company sources at the air show.

• **Materials.** To withstand the projected speeds and surface temperatures, expected to range between 80 degrees centigrade (176 degrees Fahrenheit) and 600 degrees centigrade (1,120 degrees Fahrenheit) initially, new metals and plastics will be needed.

But companies and government research agencies involved in developing materials have been extremely guarded, providing detailed information.

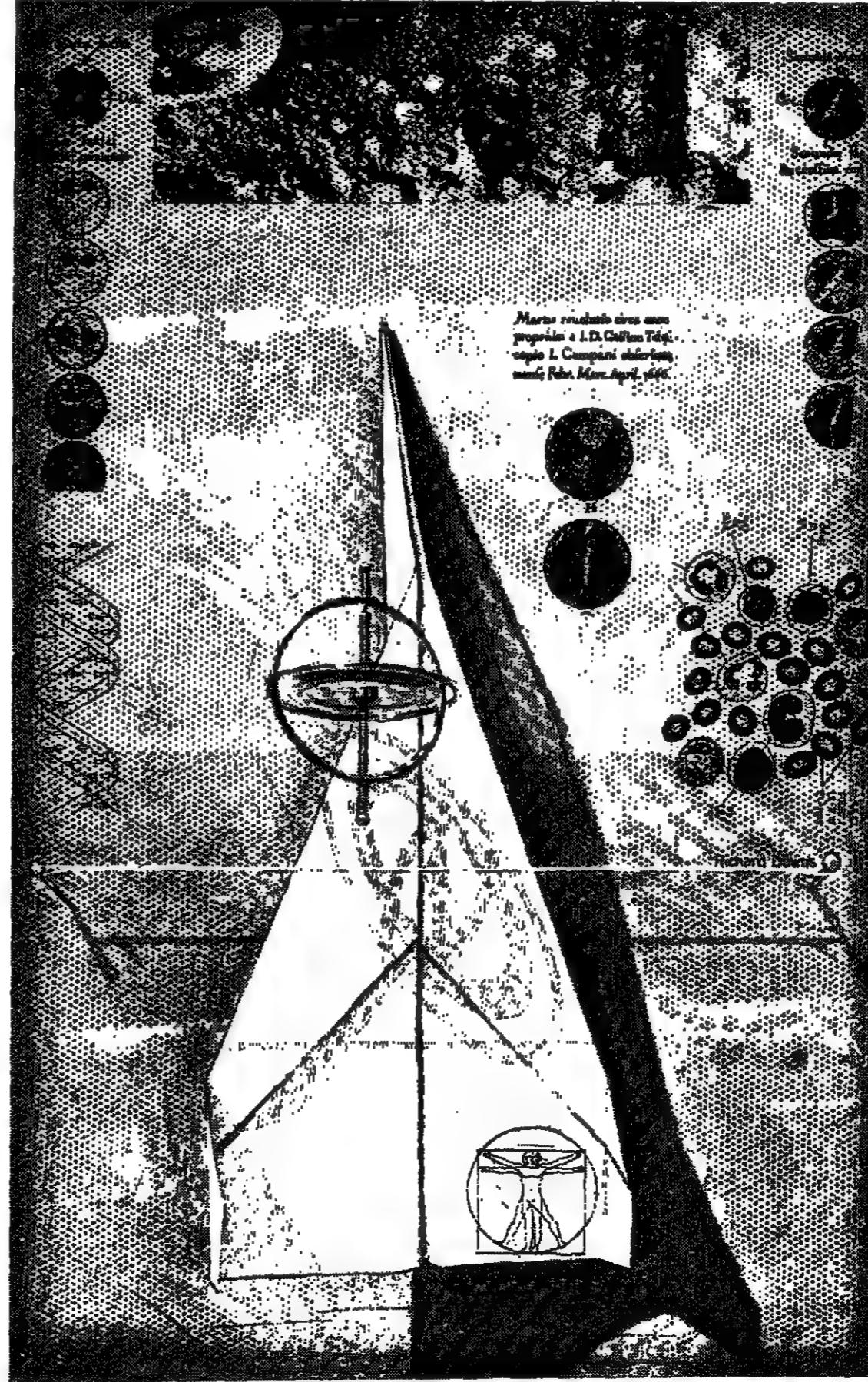
New forms of titanium, stainless steel, polymers and metals reinforced with ceramics, boron or carbon threads may also be incorporated in the new aircraft. Novel alloys and other ceramic materials are being studied for the engines, turbines and combustion chambers, where temperatures will easily reach 1,400 degrees centigrade (2,544 degrees Fahrenheit).

• **Communications.** This is probably the most guarded area of technology being studied, and apparently, the least advanced. Most development work in this area has been done in the United States, primarily on the shuttle program. Britain and France are studying avionics technology in connection with their respective Hotel and Hermes shuttle projects.

Probably nowhere is the work on a hypersonic plane more advanced than in the United States. Known as the National Aerospace Plane and financed jointly by the National Aeronautics and Space Administration and the Defense Department, the plane's engines are already being developed by GE and Pratt & Whitney, with projected speeds of up to Mach 25.

Boeing, General Dynamics, Lockheed, McDonnell Douglas and Rockwell have started airframe studies, and contracts for the first flight demonstration aircraft may be ready to sign at the next Paris air show in 1989.

AXEL KRAUSE is the economics correspondent of the International Herald Tribune.



Psychology Is Key on Long Flights

By Brigid Phillips

PARIS — To most mortals, the limits of space are as short as the imagination. To Patrick Baudry, a French astronaut, the concept of conquering space is as long as several millennia and defined only by the limits of the human mind.

Mr. Baudry speaks with the wisdom and enthusiasm of one of few humans to experience life in space. He has the objectivity of one who has worked with U.S. and Soviet space officials to expand the horizons of space.

For Mr. Baudry, the physical and technical obstacles associated with space travel are surmountable. Excellent physical condition is assumed. The astronaut learns the technicalities of how to conduct scientific experiments in space or the operations of the spacecraft by himself or with a scientist. But psychological constraints make for problems now and will only be multiplied for long manned space flights. Already, in both the Soviet and American programs, he said, training is a much lower priority for astronauts than mental preparation.

"The critical part comes when you start working together in the simulator," he said. In Moscow, that phase starts a year before liftoff. In the United States, the National Aeronautics and Space Administration requires three to six months in the simulator.

"You have to learn to know experiments or how to motivate others," Mr. Baudry continued. "Up there in that tiny area of the capsule, it is crucial to understand perfectly the personalities of the other team members."

When it comes to considering astronaut psychology, Mr. Baudry rates the Soviets far ahead. From 1980, he spent two years at the City of the Stars base near Moscow, training for a June 1982 space flight, for which he eventually was named an alternate.

Each member of the team went through the same program of in-depth training that covered every task on board, from conducting experiments to operating the Soyuz-7 craft.

"I got training as a full-fledged member of the crew. Each crew member was interchangeable with the others. My training was extremely thorough and serious, and exactly the same as the Soviet cosmonauts got," Mr. Baudry said.

In 1983, he went through the equivalent American preparation and made a weeklong flight on the space shuttle Discovery, though there, he was treated as a lesser team member.

"Psychologically, it is more difficult in the American program," Mr. Baudry said. But he pointed out that NASA also has a much more rigorous and regular program of space flights. "The Americans have a real need for terribly tight organization that demands specialization. It is perfectly logical that they would categorize people. But that shouldn't be allowed to affect the psychology of the astronauts involved."

UNLIKE the Soviet program, U.S. space development is tied to commercial interests. "There is a pioneering spirit. The Americans know how to invest and how to take risks," he said. "The Soviets have little of that spirit of breaking away and battling for the lead."

But, Mr. Baudry found, the Soviets take a much more philosophical, visionary approach to space. "They have a view of their space program that is very long-term and consistent. The American program revolves around development in the next few years with little of that futuristic vision."

Mr. Baudry, 41, has put aside his career as a French Air Force test pilot. His "greatest letdown" was having to land on Earth after eight days in space aboard the Discovery, but he has no immediate plans for more space travel while he works on the development of Europe's space shuttle, Hermes. Yet his perspective, like that of the Soviets, is long-term.

"What will be achieved by 1989 does not interest me. Even 25 years is not as much as half a second in the scheme of things. What is important is to look across millennia," he said. "What will become of man on the planet Earth in the year 3000, 4000, 5000? Will this being that has created the power to destroy his planet have the wisdom to survive? And will we succeed in going beyond our solar system? These are the real questions of our adventure. My interest is in being a small part of the motor that drives the machine in the direction of a natural, logical and positive evolution."

KATHY SAWYER is the space writer for The Washington Post.

BRIGID PHILLIPS is a journalist based in Paris.

even within hours," said Mr. Charles. No astronaut has yet suffered a kidney stone problem during a mission.

In 1988, the Soviets plan to take a French-built bone scanner machine into orbit to study in-flight changes, according to Dr. Nicogossian. The Soviets currently believe the effect on bones levels off sooner than previously thought, at about three months, he said.

The loss of fluids is caused when, without the drag of gravity to pull them down, the body's blood and other fluids drift into the upper regions where they impinge on key sensors. Informed by these sensors, the brain assumes that the unusually high amount of fluids accumulating in the chest exists throughout the body, so it starts getting rid of them through sweating, urination and other means.

As for the loss of bone minerals, that presents a serious short-term problem in addition to its effects on bones themselves. "That calcium ends up in your blood and increases the potential for kidney stones, and this could happen

Nicogossian said, and the Soviets have tried replenishing fluids. They have also tried compression suits that are spring loaded so that the legs and torso are compressed to the waist, with straps on the feet, to substitute for gravity, he added.

The most famous space affliction is motion sickness.

Something called "sensory conflict" is believed to be the culprit, NASA researchers say. That is, in weightlessness, the internal body programming that controls posture, movement and the like is no longer calibrated to read the signals that are coming in from sensors such as those in the inner ear.

American astronauts have not experienced serious health problems after their relatively short-term flights, but researchers express concern that irreversible changes may occur in the body with prolonged or repeated flights.

Soviet cosmonauts, after long stays

Technology Developments

Sale Furor Spotlights Submarines

By Malcolm W. Browne

NEW YORK — As the Soviet Union and the United States race to build the quietest submarines possible, the recent disclosure that a Japanese company sold robot propeller-manufacturing machinery to Moscow has underscored the growing importance of computer control to the weapons industry.

In a thermonuclear war, detection of the telltale noise produced by the propeller of a single lurking missile submarine could prevent the destruction of scores of cities. The sale by the Toshiba Machine Company to Moscow of computer-controlled machinery capable of making especially quiet propellers has, therefore, caused consternation among American military officials and has helped to sour Japanese-American relations.

Details of the technology required for making quiet submarine propellers are among the most highly classified Defense Department secrets, and a Navy spokesman said Defense Department officials were barred from discussing the subject.

However, an enormous amount of information about screw propellers is in the public domain. In interviews, several marine propeller experts and former submarine officers discussed unclassified aspects of the quiet propeller problem on condition that their identities be withheld.

"It's a safe bet that the Russians have had a good grasp of the principles behind quiet propellers all along," a former commander of a ballistic-missile submarine said, "and they also probably had ways of getting the machinery they needed without help from Toshiba. Where they've lagged has been in the computer programming and software needed to drive these numerically controlled machines."

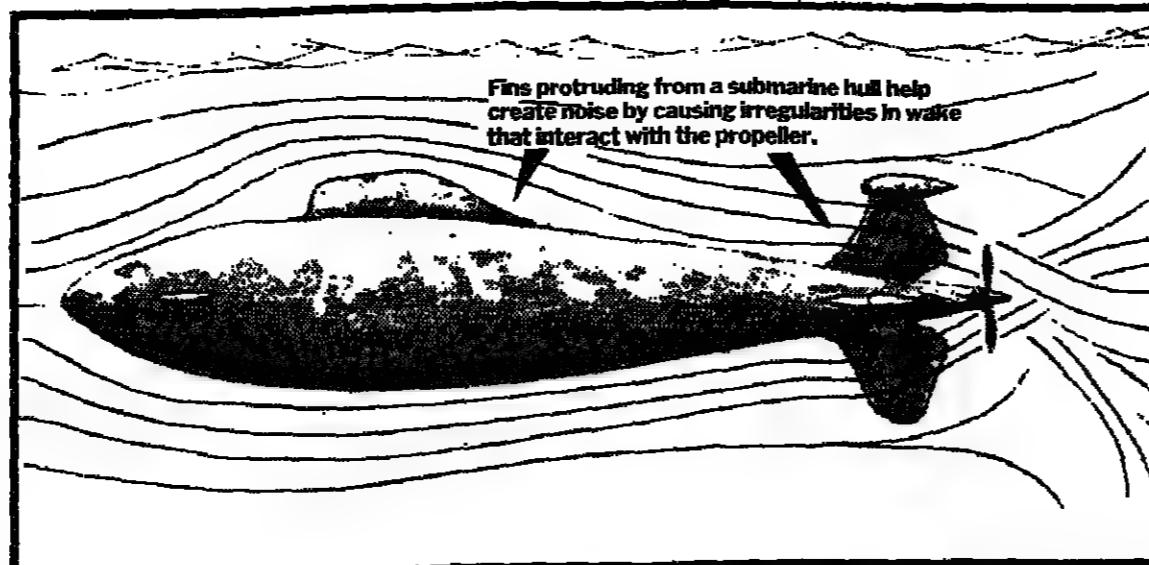
Most of the surface ships in the United States Navy are driven by complex, controllable-pitch propellers manufactured by the Bird-Johnson Co. using such equipment.

A numerically controlled milling machine is one in which a digital computer, programmed to direct a complex series of mechanical steps, sends numerical coordinates directing the machine's milling head along the paths it must take to remove the required amount of metal from the object it is shaping.

One of the main sources of submarine noise, experts say, is propeller cavitation. A spinning propeller blade cuts through water in much the way an airplane wing does through air. The front surface of the propeller blade, comparable to the upper surface of a wing, creates suction as it speeds through the water, and the suction pulls the propeller (and ship) forward. But above a certain speed, the blade moves too fast for the water touching its front face to catch up, and this creates a vacuum cavity, which may extend in a sheet along most of the blade's surface.

As the cavity sheet separates from the blade, it breaks up into microscopic bubbles that are ordinarily swept away with the flow of water. When the bubbles reach a distance from the blade, where the surrounding water pressure increases to its normal level, the bubbles abruptly collapse. Each collapse makes a small but sharp noise, and the collective effect of these cavitations collapses is a continuous roar audible to enemy sonar detectors.

The roar itself is not the only source of propeller noise. Each of the objects that stick out from a submarine's hull — the sail (superstructure), stabilizing fins, rudder and so forth — creates a turbulent wake distinct from the rest of the water streaming past the vessel. When a propeller blade cuts through one of these



turbulent discontinuities in the flow of water, a pulse of sound results; the principle is similar to a jet of air blown through the spinning holes of the disk in a siren. The more blades the propeller has and the faster it is spinning, the higher will be the pitch of the resulting noise.

All propellers cavitate above a maximum speed. Even below this speed, the blade tips, which are moving through water faster than blade roots, may cavitate. A submarine headed across a wide stretch of ocean to its station ordinarily moves at high speed ("transit speed") until it nears its destination, and during this period its propeller cavitation is particularly noisy. Once on station, the submarine slows to a crawl ("patrol speed") to remain as quiet as possible. But even when a submarine is forced to travel comparatively rapidly, the captain tries to keep cavitation and other noises to a minimum.

"Obviously, the prudent submarine commander who must increase speed will take what steps he can to prevent cavitation noise," a former submarine officer said. "One way is to dive as deep as he can."

The onset of cavitation is determined partly by the pressure of water enveloping the spinning blade. The higher the pressure, the faster the blade can spin without tearing loose from the water in contact with it. Since water pressure increases rapidly with depth, a submarine can travel faster while remaining quiet if it dives deeply.

The design of the propeller also critically affects the spinning speed at which cavitation sets in. A large-diameter propeller that spins slowly is less prone to cavitation than a small one that spins rapidly, and modern submarine propellers are, therefore, relatively large; some Soviet propellers are so large their blades extend above the water when a submarine runs on the surface.

A nuclear submarine propeller, cast from bronze in one piece, generally has five or seven blades, and the number of blades affects its sound. The more blades that pass through a given wake discontinuity in a given time interval, the higher will be the pitch (frequency) of the sound. In general, high-frequency sound does not reach as far under water as does low-frequency sound, so a larger number of propeller blades may help defeat an enemy's acoustic detectors.

A particularly important factor in propeller noise is the shape of the leading edge of a propeller blade. In conventional propellers, the blades are more or less symmetrical, and the leading edge slams all at once into any wake discontinuity it encounters, creating a sharp pulse of sound. But in advanced military propellers, the leading edges of blades are swept back — skewed — in somewhat the way the wings of jet airliners are swept. Skewed propeller blades slice across wake discontinuities at sharp angles, and the sound they make is therefore smoother and quieter.

Submarine propellers are also "raked," meaning that their blades are angled back from the shaft rather than perpendicular to it. The blades are thus prevented from encountering some of the wake discontinuities that create sound.

Among the most important ways of increasing the speed at which a propeller may turn without producing cavitation noise is to eliminate irregularities in the smoothness of its curves, and it is for this that advanced robot milling machines like those made by Toshiba are particularly important, experts say. The slightest ridge, dimple or "pillow" on the face of a propeller blade, invisible to the naked eye, may be enough to trigger the separation of the blade surface from the water in which it is spinning and thereby start cavitation.

A bronze submarine propeller, perhaps measuring some 20 feet in diameter and weighing around 10 tons, is first cast from molten metal, cooled, and inspected for faults. It must then be machined to the exact dimensions specified by computer-assisted engineers who designed it. Finally, it must be perfectly balanced (by removing metal from one or more blades) and tested on a spinning shaft for vibration and other characteristics. These operations are so difficult and time-consuming that the cost of a propeller for a large, modern warship, industry officials say, is about \$1 million.

PROPPELLERS are traditionally finished by hand. Using template gauges to check their progress, workers grind metal away from each blade a little at a time until the appropriate template fits perfectly. Ten templates, fitted at equal intervals along the length of each blade, must all fit properly.

"But if you've ever worked in a machine shop, you can guess the effect of this," an engineer said. "A worker will grind down the blade at a template point to a perfect fit, but in the blade areas between templates he'll tend not to grind too hard, for fear of taking out too much metal. Invariably, this means too much metal is left between measurement points with a certain amount of bulging or 'pillowing.' A propeller like that will pass all inspections, but it will cavitate at too low a speed."

Other experts said that in any case, Soviet submarines would have become quieter. Submarine noise comes from several sources besides propellers, one source being the vibration of gears, shafts, bearings, pumps and other machinery inside the ship's hull. This kind of noise is customarily reduced by mounting machinery on rubber blocks or otherwise isolating it from the hull. Builders also line hulls with foamed-plastic sound insulation.

"This Toshiba flap is unsettling," a former naval officer said. "But I suspect it's just the latest skirmish in our cat-and-mouse game."

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Degradable Plastic Timed to Self-Destruct

By Thomas Netter

ment in the company's headquarters at Solothurn, Switzerland.

Mr. Kainz says the new product can be used for almost every plastic application — injection molding, profiles, foam, liquid plastic or rigid plastic — "everything you can imagine in thermoplastic applications can be made out of Belland plastic."

Mr. Kainz said in an interview that Belland can develop a polymer for an individual client's needs. The plastic is then manufactured through a standard process that is licensed out to manufacturers. Belland does not produce the product itself, Mr. Kainz said. The company has only 60 employees, two-thirds working at Belland's research and development facility in the tiny village of Bibern near Solothurn.

CHEMICAL agents can break down the material in seconds, hours, days or months.

The beauty of Belland plastic, Mr. Kainz says, is that it can be made stable against water, can have a long shelf life, or be used as agricultural film that is exposed to sun, light, water and micro-organisms.

"After the resistant period, you can define the time when it degrades," Mr. Kainz says. "And even this can be installed into the plastic, from seconds, to minutes, hours, days or months."

The plastic can be programmed, either chemically by adding time reactive agents, or by producing it in such a way that exposure to water or a chemical agent, for example, would begin to break it down.

After the plastic is dissolved, it is broken down in an "environmentally safe" process of biological degradation. A one-year study indicates a 50-percent biological breakdown, and Belland assumes that within two years all residues will disappear. "What we know in using raw materials already tested is that there are no bad effects on the environment, humans, soils or the air," Mr. Kainz says.

THOMAS NETTER is a journalist based in Geneva.

W. Germans Test Digital System

The underlying question: Will people really use the technology?

By Douglas Sutton

HANOVER — The future of telecommunications in West Germany for the moment belongs to around 800 individuals in Mannheim and Stuttgart, in a pilot test that industry executives are confident is the start of a thorough revamping of the telecommunications landscape which will go far beyond West Germany's borders.

The testing, begun in January under the auspices of the West German Federal Post Office, covers two systems for the Integrated Services Digital Network, or ISDN, which combines the complex — multiple telecom services running simultaneously — with the simple: all via conventional telephone lines.

For the moment, two companies in particular are awaiting the Bundespost's extremely critical evaluation. They are Siemens with its Electronic Digital Switching System or EWSD used in Mannheim, and Standard Elektrik Lorenz (SEL), whose System-12 was put through its paces in Stuttgart.

But other West German firms, such as Telefona, ANT, DeTeWe, and Nixdorf, as well as foreign companies will be watching the Bundespost's appraisal. It is not just a question of the billions of dollars' worth of research and development costs already invested, but also on the line are the strategies that telecom firms have begun to draft for ISDN's future.

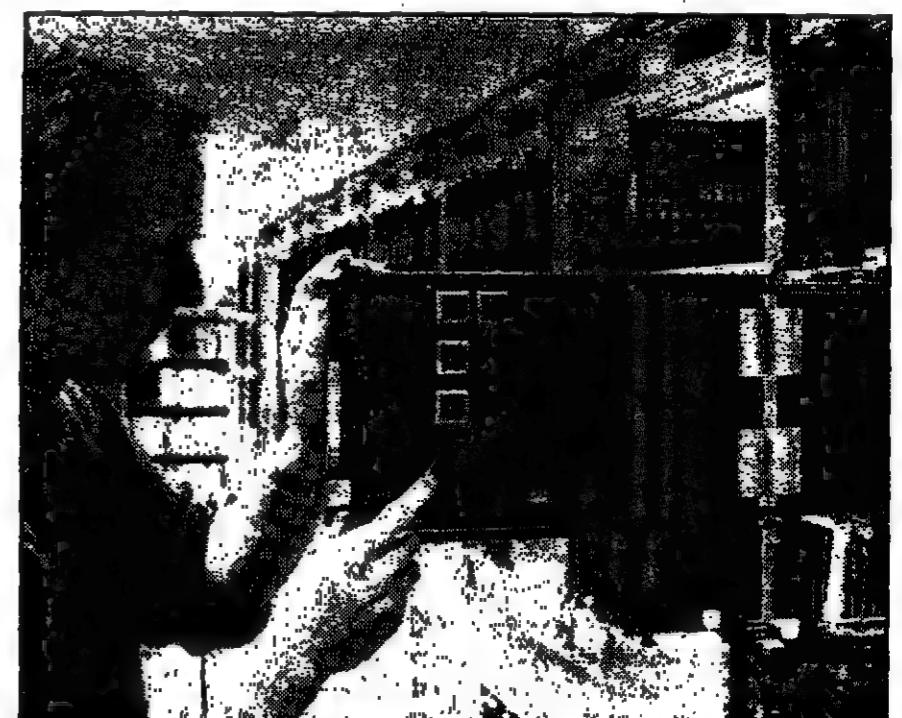
"The chief question in the pilot testing concerns is not just the technical side of ISDN. Everybody agrees digital communications is the technology of the future," said Rainer Mueller, a Siemens engineer and marketing manager. "What is also at stake is the question of user acceptance. Will the businessman and private household really use the multiple services offered under ISDN? This is, after all, the real test."

Industry officials agree that the question is one of educating the public, particularly the private householder, who might not immediately know what to do with ISDN.

At the office equipment, communications and information technology fair CeBIT in Hanover last March, companies tried to educate potential customers on the uses of 144 kbit/s. This is the sum of two 64-kbit/s channels for the simultaneous transmission of voice, text, data, and still images, combined with a third 16-kbit/s channel for coordinating and controlling these services.

In its display, Siemens linked a travel bureau, an architect's office, a bank and a private household, all variously equipped with telephone, telefax and telecopier equipment, computer terminals and normal TV sets. It showed them, hypothetically, going about daily business using the gadgetry simultaneously.

In the real-life testing in Mannheim and Stuttgart, the exacting standards of the Bundespost, meanwhile, were the most immediate hurdles. Mr. Mueller said that during the year-long period in which the Siemens and SEL systems were being tested, the post office had



A technician at Standard Elektrik Lorenz laboratories inspects a component of System 12, the digital switching hardware being tested in Stuttgart.

set a limit permitting only a couple of minutes of any kind of disruption in the ISDN service.

West Germany is not alone, of course, in starting to test the ISDN waters. The list of countries launching or planning pilot projects in various forms of digital telecom technology in the near future includes Belgium, France, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, Britain, and the United States.

The West German project is the newest phase in the Bundespost's preparation to introduce glass fiber-based broadband transmission systems starting in the early 1990s.

Beyond this, the West Germans hope to prove that though the applications may be complex, ISDN-compatible systems, at least in terms of the 64-kbit/s channels, would be relatively easy to install as they replace the older analogue switching network.

Theodor Immer, an engineer at the Geneva-based International Telegraph and Telephone Consultative Committee (CCITT), points out that, given the worldwide acceptance of clearly defined technical standards, ISDN networks could find widespread ready acceptance.

"As paradoxical as it sounds, developing countries which are now just starting to develop their networks could have an extraordinary interest in digital technology," Mr. Immer told the West German engineering association VDI publication Magazin.

He said that developing countries could sooner apply digital technology over a broader region than could the large industrial nations that were still operating analogue technology.

Siemens believes its EWSD system, which according to Mr. Mueller required about 2 billion Deutsche marks (\$1.1 billion) in research and development costs, has an advantage under the international standards for digital switching networks laid down by the CCITT.

Most recently Siemens concluded a sale of four EWSD units with a total of 43,000 con-

nections to Portugal. So far Siemens has sold its EWSD system to 52 telephone companies in 26 countries, for a total of 6.7 million telephone hookups.

In view of the tremendous up-front development costs companies need such sales to get their money back.

A Siemens executive estimated that the company needed a sales turnover of at least 10 billion Deutsche marks to recoup EWSD research and development costs. A board member, Hans Baum, said that Siemens needs a 15 percent share of the world market to preserve its ability to compete.

With such companies as AT&T, Northern Telecom, Japan's NEL, and Ericsson also developing and selling digital switching technology, many firms have begun to ponder whether they might have to join forces to survive. This was one of the chief topics discussed by industry executives at a world telecom symposium during the CeBIT exhibition.

At that forum hosted by the weekly Wirtschaftswoche magazine, Mr. Baum said that there was a distortion of the market stemming from large mergers.

He also said that, while German cartel law restricted firms from gaining too much of a share of the domestic market — Siemens is under fire for its 45 percent share in West Germany — the competition was under no such restriction. He cited as one example Alcatel's 85 percent share of the French telecommunications market.

Still, Mr. Baum was confident about the future prospects opened by the ISDN development. He said the Europeans were now in a position to gain territory worldwide in the telecommunications field, but warned that there would first have to be agreement on unified standards.

DOUGLAS SUTTON is an editor at the German Press Agency (DPA) in Hamburg.

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MINOLTA

TechnologyWorkplace

'Networking' From Home

By Sherry Buchanan

LONDON — Technology has freed us from having to work in an office. Yet, most of us still do. Most companies do not want to lose control over their staff or take the trouble to reorganize. And many business transactions require team work.

But experts agree that personal computers and computer links mean that more people in certain types of jobs will be able to work from home and will do so productively. Whether they will want to is another question. Not everybody is cut out to work in quasi-isolation, and people worry about the career implications of being home-bound: Out of sight, out of mind?

According to a survey of experts by the British Department of Trade and Industry, one quarter of the respondents said that by 1995, 10 percent to 15 percent of the British labor force would work from home and that 20 percent would work from home by 2010.

"Office Workstations in the Home" (National Academy Press, USA) looks at six case studies where staff worked from home and argues that there were 20 percent to 50 percent productivity gains.

Some companies such as Blue Cross-Blue Shield, British Telecom, ICL, the British computer group, Rank-Xerox, the European headquarters of the U.S. office equipment company, and F. International Ltd., the British software consultants, are already encouraging some people to work from home and setting them up with the necessary computer links to communicate with each other and their boss. But, because of the perceived negative career implications, few men still take up the offer. Out of ICL's 280 off-site workers, 93 percent are men. Out of F. International's 7,000 home workers, 97 percent are women. Both companies started letting people work from home before the age of the personal computer to enable women to combine career and family.

ICL tries to recruit more men by offering good promotion possibilities. In ICL's book, being an off-site worker does not mean that you cannot become a manager if you want to. For example, Diana Hill, who started out as a programmer with ICL, now manages 170 off-site workers. Like them, she works from home and they have regular meetings at ICL offices.

Three years ago, Rank-Xerox decided to let a few of their staff members work from home. Senior management devised the project at a time when the company was trying to cut costs. By letting 54 people become "networkers," Rank-Xerox sought to retain people with certain skills but

managed to cut costs by offering them contracts that guaranteed them 100 days worth of work with the company. For the rest of the time, they were on their own.

Part of the Rank-Xerox deal was to lend networkers the computer equipment and software they needed for their specific job.

One networker, David Butler, who was a systems director with the company, started his own company, Artificial Intelligence Ltd., which now has an annual turnover of £2 million (\$3.26 million).

Another worker puts out the in-house magazine from home.

"I wanted to do my own thing: I had done my corporate bit," said Rosemary Vaux, who started working three and a half years ago from her spare bedroom in a cottage in Buckinghamshire. Her company, Ravenstone Public Relations, now handles other corporate accounts, and her husband, who worked as a television broadcasting engineer, has joined the company full time and looks after the production side.

"The technology is the crux; that is what makes it all happen," she said.

Some home-bound workers find it difficult to deal with isolation and loneliness. Others cannot separate home from work and find themselves doing house chores when they should be working. Managers recruiting people to work at home try to be selective.

"Not everybody can work at home, so we spend a lot of time on interviewing," said Diana Hill, general manager of CPS Professional Services, a division of ICL, which produces software packages. "We are looking for self-motivated individuals. We try to find in their background projects they have accomplished on their own."

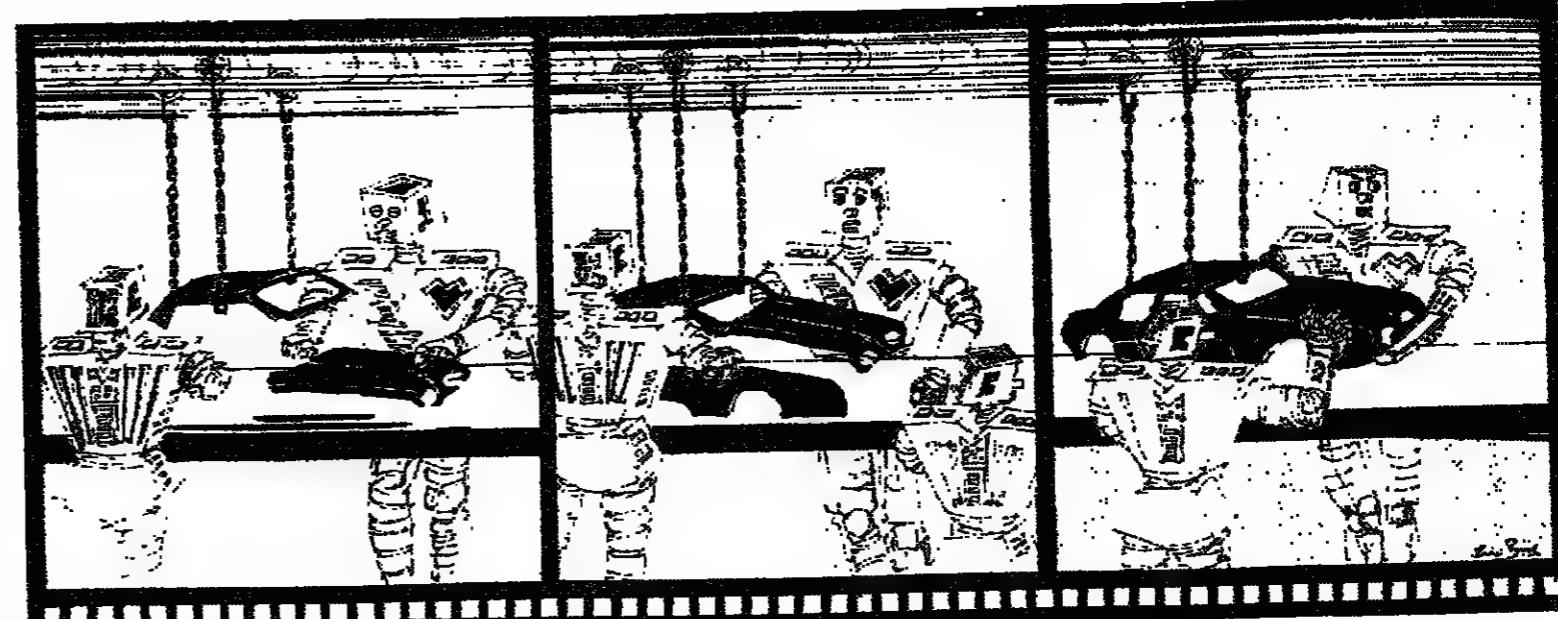
Some women quit because they could not cope with both children and job at home. One CPS bit of advice is to hire help for the children.

For the individualistically minded, working from home can help relations with the boss.

For the boss, on the other hand, it means devising more formal controls and maintaining constant communication.

"We have to get to know our staff very well," said Mrs. Hill. "Without being intrusive, we have to be aware of some of their personal circumstances because they are much more likely to be affected by them."

SHERRY BUCHANAN writes the International Manager column for the International Herald Tribune.



Eric Thiel

Humanizing Factory of the Future

By Juris Kaza

TROLLHATTAN, Sweden — For Sweden's highly innovative automobile industry, the manufacturing system of the future will be built on a lesson drawn from the past: The human factor is the key to performance.

Anders Svensson, a behavioral scientist working at Saab-Scania's main passenger car assembly plant, said that the most important element in auto production, whether highly automated or not, is a stable base of experienced and motivated employees.

When production technology begins to dehumanize or frighten people, it defeats its own purpose.

"You have a lot of high-tech car plants in the world that are not successful," he said. "In the next car plant generation, we will probably take a small step backwards in terms of technology."

Saab's facility at Trollhattan, near Sweden's west coast, is a giant complex producing over 60,000 Saabs a year, or nearly half the company's annual production. It boasts production equipment from Japan, France, West Germany and Sweden, including ABB robots that pose inside car bodies, spot-welding them in bursts of hissing sparks. The robots do work that was once done by human workers. Painting and body-part pressing is also almost wholly automated.

There is no single assembly line in Trollhattan but a series of "minilines" separated by buffer zones, where partly assembled vehicles wait to be passed from one work team to another.

"Carriers" bearing parts or whole subassemblies silently glide along passages between robot lines and work areas to computer-selected destinations. They stop smoothly when one of the soft bumpers detects a human standing in the way.

Trollhattan, and rival Volvo's plants at Kalmar and Torslunda, near Gothenburg, are the state of the art of Sweden's auto industry. But they will not be for long. Both companies are investing billions of kronor in a new generation of assembly plants at Uddevalla for Volvo and at Malmö, on the southern tip of Sweden, for

Saab. These plants are scheduled to be fully operational in the early 1990s.

Both facilities are to be built on the sites of abandoned shipyards, the mute remnants of Sweden's once-powerful shipbuilding industry.

Despite the extensive use of robotics, computer-assisted design and automated process control, the buzz words for future auto production methods in Sweden are "sociotechnology" and "job design," rather than the jargon of computer hardware and high technology.

"There is a widespread misunderstanding about the role of technology in our future factories," said Bert Jonsson, AB Volvo's vice president for human resources.

"There is a part of the manufacturing process that can be automated, such as the pressing of sheet steel, the making of motor blocks, transmissions, as well as painting and body welding. All these can be and will be automated. But there is a part of production — the final assembly — which no one has automated and which won't be automated in the foreseeable future."

Volvo officials say that the future of the Swedish auto industry depends on innovations in the quality of work rather than the physical and technical processes involved, and their counterparts at Saab agree.

"The 'big bang' of high technology gives you a choice," said Mr. Svensson of Saab. "You can use your people just to load the automated machines, or you can use the operator's intelligence as far as possible. One way is to integrate the tasks around the direct assembly process, such as planning, materials handling and administration."

Saab has evolved an 8- to 10-member team system for its car assembly plants based on job rotation and considerable autonomy by each team in setting routines and objectives. Computerized process control has been decentralized, with each miniline controlled by its own computer, which one or several members of the respective production team are able to maintain and program.

Volvo's innovations in production are synonymous with the plant it opened in 1974 in Kalmar, on the east

coast of Sweden. Kalmar pioneered the use of teams and the breakdown of the assembly line into work areas, with cars moving along on carriers. Because it started its innovations all at once, Kalmar got more international publicity than the evolution of similar methods at Saab.

At their future plants, however, Saab and Volvo will be taking different paths in the development of work environments. Volvo's Uddevalla plant will actually consist of six workshops, each staffed by around 100 workers that will be responsible for the complete assembly of individual cars from start to finish.

EACH shop will also be its own profit center, with workers' compensation packages including some form of incentive for improving productivity. Several teams may work side by side, but each will start with a "kit" of parts and finish its work by driving or rolling away a new car, according to Mr. Jonsson.

Exact plans for the working environment at Uddevalla are incomplete and are being developed by a small-scale experimental workshop near the future site that is training future employees.

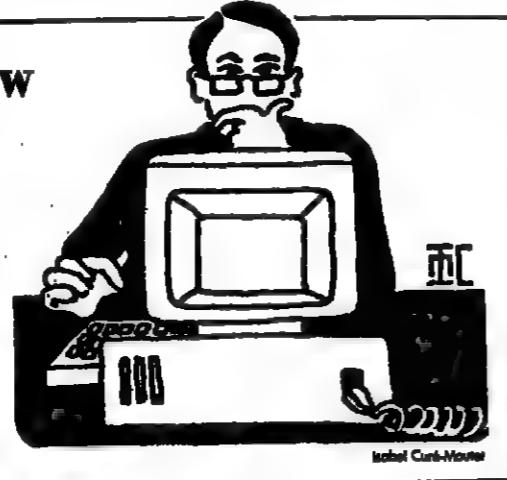
Volvo officials say that the Rolls-Royce, widely considered as the world's finest car, is hand assembled, and the new facility at Uddevalla may try to create the atmosphere of a craftsman's workshop while maintaining the speed and efficiency to produce up to 80,000 cars per year on two shifts.

At Saab, Mr. Svensson indicated that the new Malmö plant will probably run along the same lines — "a matrix of work teams" — as Trollhattan.

The main problem will be to arrange work so as to stimulate, challenge, educate and retain skilled workers, he said. A 10 percent or 12 percent turnover per year, with its loss of skills, can be just as damaging to Saab as a breakdown of a highly complex automated production line.

JURIS KAZA, a journalist based in Stockholm, contributes regularly to the International Herald Tribune.

PS-2 Gets Mixed Review



For the manufacture of herbicides we have the best partner of all: mother nature.

BASF
Innovations in chemistry

One of the aims of agrochemical research is to achieve a good action using as little active ingredient as possible.

BASF research workers have succeeded in developing certain phytohormone herbicides which almost halve the amount needed for weed control without any loss in effectiveness.

The key to this success is provided by nature — by natural raw materials and the biotechnological processing of them.

Maize, potatoes and cereals yield glucose, which in turn is converted by lactic acid bacteria into lactic acid.

This is the building block for the specific manufacture of the biologically active component in certain phytohormone herbicides.

This biotechnological stage is followed by the manufacture of the end product by conventional chemical processes.

The active ingredients applied so far are compounds which consist of active and inactive components, or what scientists call dextrorotatory and levorotatory

molecules. Now for the first time biotechnology has made it possible to isolate and produce these molecules which are responsible for the herbicidal action.

The result: the amount of phytohormone herbicide applied to the field can be almost halved.

This advance means that the quantities stored and applied are smaller and that use can be made of naturally replenished raw materials.

This achievement is an example of how biotechnology dovetails with chemistry.

BASF is convinced this is where the future lies and is backing its conviction to the full.

To translate scientific knowledge to an industrial scale is one of the most challenging tasks of our times.

BASF research for agriculture: new ideas reveal new perspectives.

Photomicrograph of lactic acid bacteria under polarized light.

BASF Aktiengesellschaft D-6700 Ludwigshafen

BASF

Technology At Home

Beyond Swatch, Swiss Innovating

By Thomas Netter

GENEVA — Ever since the mass-produced, multicolored Swatch sparked a revival of the Swiss watchmaking industry, Swiss watchmakers have been producing more and more watches that have less and less to do with just telling the time.

Using the Swatch and its roaring success as a model and, perhaps, an inspiration, many watch manufacturers from Geneva to the Jura have gone beyond the original mass-produced, plastic-molded cases, rainbow colors, scented wristbands and multi-colored designer dials that mark the Swatch and Swatch-clones.



Avalanche watch.

Some watches like Tissot's "Rock-watch" are just that, made of a piece of granite. Others, like "Le Clip," created by an entrepreneur named Michel Jordi last year, stick to the plastic and color formula and clip on just about anything.

"Flik-Flak," created by Swatch-maker ETA of Biel, comes in 10 "child pleasing colors" and a card-board clock that helps children learn to tell time through the use of hands on the watch named Flik and Flak.

Undaunted by Le Clip, Swatch has struck back with its "Swissbee," a watch on a large plastic paper-clip holder intended to be more chic than Le Clip's clothespin type design.

But this is mostly in the realm of newfangled fashion accessories, nov-

Pop-Recco works with a receiver manufactured by RECCO that has been lent or leased to 17 ski resorts and rescue services in Switzerland, eight in France, eight in Austria and two in Italy. If a person buried in the snow, the Pop-Recco reflects the signal emitted by rescue helicopters searching the area.

The system saved at least one life last winter, according to Daniel Koch of ETA S.A. in Grenchen, where the Pop-Recco is made. The watch, in different, high-visibility colors, sells for 75 Swiss francs (about \$50). The Recco System, as the receiver is called, is not for sale, Mr. Koch says.

Tissot's "Two-Timer," the time-saver, is more mundane, but has nevertheless been hailed as revolutionary in its production method. The Two-Timer dispenses with a step in the production of the watches that involves separate manufacture of the plate and casing for the movement.

Aside from its nontraditional blending of an analogue dial face and digital time, date and day readout, the Two-Timer's most thought-provoking element is the insertion of the watch's moving parts into a stamped case.

François Niklas of Tissot, a research and development specialist, said that this process cuts the number of parts used by 10 percent and more importantly, saves from 30 percent to 35 percent of the manufacturing cost.

The Two-Timer is made by the Tissot brand of the SMH group, or Swiss Society for Microelectronics and

Watchmaking Industries, Ltd. SMH is the hybrid of the 1983 merger of the giant ASUAG and SSIH groups under a rescue package arranged by Swiss banks amid sale losses and price cutting by cheaper non-Swiss rivals profiting from the electronic watch boom.

The Two-Timer, in nine varying "unisex" styles and colors costs 100 Swiss francs.

Innovation does not stop there. This month the "Wind-Watch," invented by Jean-Martin Rufer and manufactured by Guy Catlin of Breteux, goes on sale for 100 Swiss francs, and will allow wind-surfers to gauge the wind speed on land or surfboard. Waterproof and in high-visibility colors, the watch is worn around the neck on a cord.

All these watches are in the low-price range and have resulted from a deep structural change in the Swiss watchmaking industry that saw employment plummet from 90,000 in the 1970s to 32,000 in 1985. Labor-intensive manufacture of movements has in many cases been replaced by machines and, according to the most recent survey published by the Union Bank of Switzerland, a majority of watchmakers regard their future earning power prospects as favorable to satisfactory.

With 10 percent of world market volume in non-centrally planned economies and 45 percent of the value, Switzerland remains the world's leading exporter.



Inspired by the moon landings, George Daniels, above, created the "Space Traveler's Watch" with old-fashioned technology, his hands. The \$330,000 watch, shown in Basel in April, displays solar and sidereal time, which is based on the rotation of Earth in relation to the stars.

Toast of Tokyo: A Bread Machine

FOR those who have spent hours kneading dough, only to see it shrivel in the oven, Japanese companies are selling an automatic fresh bread machine. Pour water, dry yeast and flour into the top, switch it on and the machine mixes the dough, kneads it and bakes it. Up to four hours later, a fresh loaf appears.

The popularity of the machines, which sell for about 35,000 yen (\$240), has delighted the companies. Reuters reports from Tokyo: Matsushita Electric sold 150,000 of the small, square machines in the three months after it launched the product in March.

Matsushita plans to double its output of the bread machines to 100,000 sets a month. Funai Electric, an Osaka-based home appliance maker, has sold 36,000 sets since March. Toshiba, Hitachi and Sanyo two weeks ago announced plans to market similar machines.

Matsushita has no immediate export plans, but Funai plans to sell the machines in the United States and Europe by the end of the year.

PC Price Watch

PERSONAL-computer prices in the United States are heading down again. It happens every spring. But is it a good time to buy?

T.R. Reid and Michael Schrage, The Washington Post's computer watchers, are not so sure. They report that prices for IBM-PC and -XT and clones are falling fast. But they point out that the sharp drop — \$200 to \$500 for various models of MS-DOS machines — began right after IBM launched its new line. They note that the PS2 (or at least the Models 50, 60 and 80) has made MS-DOS computers obsolete.

A compromise: Some existing MS-DOS computers based on the 80286 micro-processor (IBM PC-AT or Kaypro 286) or the 80386 (Compaq Desktop 386) will be able to use the new operating system and may run some of the software.

The Latest in Entertainment: Compact Disc Goes Video

By Beth Karlin

WASHINGTON — Just when you thought you had the very latest in audio-video equipment, you're hopelessly out of date. At least that's what consumer electronics companies want you to believe.

Hot on the heels of the enormous success of audio compact discs, manufacturers now are pushing compact disc video (CDV) as the latest must-have product.

The new CDVs are five-inch (12-centimeter) platters that combine short "video-clips" with music. Two types of players have been developed to handle the CDVs. One works only with the five-inch discs, while the other "combi-player" also handles two bigger discs that feature full-length movies and concerts.

BETH KARLIN, a journalist based in Washington, specializes in technology. **CHRISTINE CHAPMAN** is a journalist based in Tokyo.

CDVs were introduced at the Consumer Electronics Show in Chicago in early June. Pioneer began shipping the first products in June, with a European launch planned for fall. Others, including Hitachi, Philips, Toshiba and Yamaha, plan to start selling their products later this year or early next year.

The five-inch version is best suited to MTV-style video and, not surprisingly, is aimed at the youth market.

Combi-players, meanwhile, represent an attempt to revive an existing technology — laser discs — that never really got off the ground in the United States and Europe.

"It's old wine in a new bottle," said David Rosen, director of electronic entertainment for Link Resources, a market research firm. This format, popular in Japan, initially failed elsewhere in face of stiff competition from video cassette recorders (VCRs), which use

erasable tapes that can be recorded over and over, while laser disc players cannot record.

Electronics companies are focusing on the more versatile combi-players. Pioneer, for example, has no immediate plans to introduce a dedicated five-inch player.

The marketing pitch is aimed at connoisseurs who want a complete home entertainment system, including both VCR for recording and combi-player for classics. "It's for the consumer looking for the best in sight and sound," said Michael Fidler, marketing vice president for Pioneer Electronics (U.S.A.) Inc.

John Messerschmitt, who spearheaded CDV development at North American Philips and is one of the leading proponents of laser disc technology, believes that as many as 700,000 players could be purchased next year.

"The price will come down," he said. "And the units and discs will get better and better."

But some analysts wonder whether there is a large market for these products, particularly the five-inch model. "The audio portion of the video clips run four times longer than the video," one industry observer pointed out.

"It's hard to understand why anyone would pay \$500 to see just a short video clip."

And some consumer electronics companies still have reservations. Sony, for example, showed a prototype in Chicago, but reportedly is still not firmly committed to CDVs.

"The key will be in the availability of discs," said Mr. Elrich of Video Review. "It's a software-driven market."

At present, there are about 2,000 titles available on 12-inch laser discs and a few hundred eight-inch laser discs featuring concert and full-length movies.

Capitol, CBS, PolyGram and Warner/Electra and other record producers say they are committed to the CDV concept. They plan to introduce more than 250 different five-inch discs between now and Christmas. The video clips will cost between \$6 and \$8 to start.

Record companies, meanwhile, are stepping up production of laser disc movies and concerts, especially classics. "Videos are becoming collectibles," Mr. Rosen said.

Movie companies also are excited about the resurrection of laser discs via combi-players.

Laser discs are much harder to pirate than VCRs.

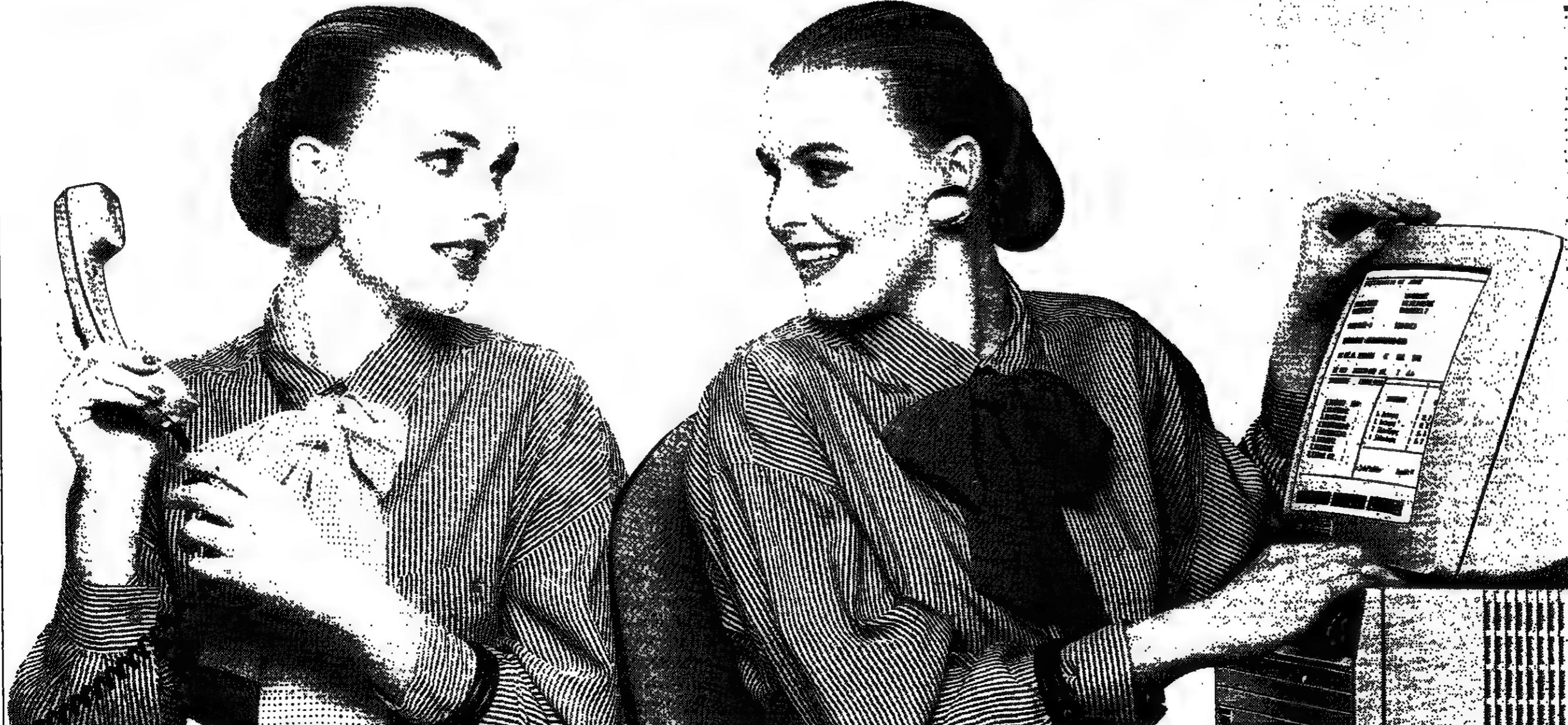
TOKYO — The CLD, or compact laser disc combination player, was introduced in Japan on June 1, priced at 148,000 yen (\$1,050) or about \$250 more than the cost in the United States, Christine Chapman reports.

A Pioneer spokesman said the differential reflects "strategic reasons" and a "different market situation."

Hajime Uchida, manager of the European section of Pioneer's international marketing division, said the European version will use a different color system than the U.S. and Japanese models. "We must make small changes in the system to fit their specifications," he said.

To achieve a finer, clearer picture, more horizontal lines have been added. A super-refined digital recording is produced by doubling the filter capacity to achieve a higher frequency and less "jitter and noise," according to Pioneer, which credits its "sharp-eyed semiconductor laser."

Nixdorf turns DP and telecommunications into twins



Until now, they were not even related. But through the medium of the Nixdorf Digital PABX System 8818, EDP and telecommunications become part of an integrated in-house information system which permits simultaneous transmission of speech, data, text, and graphics over a single telephone line.

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TUESDAY, JUNE 23, 1987

INTERNATIONAL STOCK MARKETS

Bangkok's Bubbly Market Seems Unlikely to Burst

By PATRICK L. SMITH

International Herald Tribune

BANGKOK — There is a sense of déjà vu among local investors in Thailand these days. For many, the stock market's recent performance resembles nothing so much as the 1970s boom in the late 1970s, when the exchange's composite index rose to a record 120 and then collapsed when a prolonged speculative fever finally broke.

After years of lackluster trading, the Securities Exchange of Thailand is again on a roll. The SET Index has gained almost 120 percent in the past 12 months, and turnover has shot up at several times that rate, just as it did a decade ago.

Understandably, local buyers are nervous all over again about the relatively high prices stocks are fetching. Most analysts say that this explains the recent pause of the SET Index, which has hovered at about 280 since it reached that level earlier this month.

Among the world's small, newly popular markets, however, it is hard to match Bangkok's continuing attractiveness. Shares are still cheap by international standards. Solid economic prospects suggest that this time, "there are no bubbles to burst," as one analyst put it. On Monday, the index ended at 288.44, a gain of 6.76 points. Turnover was unusually heavy, valued at 636.93 million baht (\$24.7 million).

"Prices are high from a local point of view," said Udom Vichayabhai, managing director of Mutual Fund Co., a unit-trust affiliate of Industrial Finance Corp. of Thailand. "But they won't seem that way in one or two years' time."

As in many other Asian markets this year, low interest rates and increased foreign buying have been key factors in Bangkok's performance. Underlying this, however, is an important transition in the economy as a whole.

Last year Thailand reported its first current-account surplus in more than two decades. After a relatively sluggish economic performance for most of the 1980s, the nation is now braced for three to five years of uninterrupted growth at an annual rate of 5 to 7 percent.

WE MAY BE LOOKING at a modest correction over the next few weeks," said Choedchu Sophonpanich, managing director of Bangkok First Investment & Trust Ltd. "But the economy is on a very solid footing. It's clearly going to push the market further."

Among the exchange's 93 listings, first-quarter earnings per share showed gains of 25 percent or so over the corresponding period last year. Second-quarter reports, which are due soon, are expected to indicate similar gains.

Calculated on an unweighted basis, Bangkok's price-to-earnings ratio is now about 13, compared with 6 or 7 in the years following the boom and bust of the last decade. For the market's leading stocks, however, it is still 10 to 12, and lower than that for the most dynamic local corporations.

Reflecting a substantial shift in the economy toward manufacturing and exports, the market has been led so far by textiles, construction stocks and commercial issues. Listed securities companies, such as Thai Investment & Securities Co., or Tisco, have also made large gains.

Banks, which account for almost 40 percent of the market's total capitalization, have lagged. But with many of their high-interest obligations now retired, analysts expect bank shares to rank among the top performers in the second half of the year.

For overseas investors in small markets, Bangkok now poses a familiar problem: getting in. Many of the 10 to 15 stocks around which foreign interest normally centers have reached their legal limits for overseas ownership, which is usually between 25 percent and 35 percent of issued capital, depending on the listed company's activities.

As a consequence, popular blue chips such as Siam Cement, the Saha-Union textile group and Bangkok Bank are command-

See BANGKOK, Page 17

Currency Rates

Cross Rates		June 22							
Amsterdam	2.0465	3.2485	13.44	21.4845	1.0364	1.0364	1.0364	1.0364	1.0364
Brussels (euro)	30.03	61.23	4.42	7.0728	18.87	18.87	18.87	18.87	18.87
Frankfurt	1.8333	2.245	1.42	2.0485	1.0364	1.0364	1.0364	1.0364	1.0364
London (f)	1.995	2.0455	1.42	2.1365	1.0364	1.0364	1.0364	1.0364	1.0364
Milan	1.25215	2.1048	1.42	2.1205	1.0364	1.0364	1.0364	1.0364	1.0364
New York (c)	1.099	1.2407	1.42	1.2328	1.0364	1.0364	1.0364	1.0364	1.0364
Paris	6.1235	9.865	1.42	1.4222	1.0364	1.0364	1.0364	1.0364	1.0364
Tokyo	14.00	22.77	79.96	34.15	1.128	1.128	1.128	1.128	1.128
Zurich	1.5277	2.4435	1.42	1.4222	1.0364	1.0364	1.0364	1.0364	1.0364
1 ECU	1.1322	1.7731	2.4075	1.4973	2.3271	2.3271	2.3271	2.3271	2.3271
1 SDR	1.2707	1.7961	2.3448	2.3448	1.4973	1.4973	1.4973	1.4973	1.4973

(a) Commodity trade (b) Amounts needed to buy one unit (c) Amounts needed to buy one unit (d) Units of 100 (e) 1,000 (f) Units of 10,000 (g) Not needed; (h) Not available.

Source: 1 ECU = \$1.3297

Other Dollar Values

Currency per U.S. dollar		June 22							
U.S. dollar	1.712	1.42	1.2228	1.0364	1.0364	1.0364	1.0364	1.0364	1.0364
Great Britain	1.3440	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
Hong Kong	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
Paris	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
Tokyo	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
Zurich	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
1 ECU	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126
1 SDR	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126	1.126

(a) Commodity trade (b) Amounts needed to buy one unit (c) Amounts needed to buy one unit (d) Units of 100 (e) 1,000 (f) Units of 10,000 (g) Not needed; (h) Not available.

Source: 1 SDR = \$1.3297

Interest Rates

Euro-currency Deposits		June 22							
Dollar	8.4000	8.2625	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
French	8.4000	8.2625	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
Swiss	8.4000	8.2625	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
Yen	8.4000	8.2625	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
1 month	7.74	7.54	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
2 months	7.74	7.54	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
3 months	7.74	7.54	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
6 months	7.74	7.54	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50
1 year	7.74	7.54	3.30-3.75	3.30-3.75	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50	6.14-6.50

Source: Morgan Guaranty (dollar, DM, SF, Pound, FFr); Livret Bank (ECU); Reuters (SDR). Rates certificate to interbank deposits of \$1 million minimum for eurocurrencies.

Source: Reuters

Key Money Rates June 22

Close		June 22							
U.S. dollar	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
Discount rate	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
Federal funds	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
Commercial paper 90-120 days	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
3-month Treasury bills	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
6-month Treasury bills	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74
1-year Treasury bills	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74	91.74

Source: Reuters

Interest Rates June 22

<table border

BUSINESS ROUNDUP

Akzo NV Agrees to Buy Stauffer Unit From ICIBy Ronald van de Krol
*Special to the Herald Tribune***ARNHEM, The Netherlands** — Akzo NV, the Dutch chemical and man-made fibers group, said Monday that it had agreed to buy Stauffer Chemical Co.'s specialty chemicals business from Imperial Chemical Industries PLC of Britain for \$625 million.

The transaction, to be completed next month, marks the third time that all or part of U.S.-based Stauffer has changed hands since December.

Unilever, the British-Dutch food and consumer products group, acquired Stauffer as part of its \$3.1 billion takeover of Chesebrough-Pond's Inc., the U.S.-based pharmaceuticals group, in late 1986.

Earlier this month, Unilever re-couped more than half of the Chesebrough-Pond price by selling Stauffer to ICI for \$1.69 billion. ICI made clear that it was buying Stauffer for its herbicides and other agrochemicals, and would sell the specialty chemicals division.

Akzo said the acquisition would expand its presence on the U.S. market, add to its range of specialty chemicals worldwide and boost research activities.

Stauffer's specialty products include high-performance lubricants, flame retardants and catalysts.

An Akzo spokesman said Stauffer's specialty chemicals business had consolidated revenue of \$325 million in 1986, plus a 50 percent share in joint ventures with total revenue of \$135 million.

The Stauffer division has a research center and six production plants in the United States, as well as activities in France, Japan, Argentina, West Germany, Belgium, Brazil, Australia and Canada.

Akzo's own chemical product division, which includes basic and specialty chemicals, accounted for about a quarter of last year's group revenue of 15.6 billion guilders (\$7.6 billion at current rates).

In March, Akzo's chairman, Aarne Louon, said the company aimed to raise its level of U.S. investment to at least 20 percent of total assets.

The Akzo spokesman said the Stauffer takeover would raise U.S. assets to 19 percent.

Japan Airport Chief Rebukes Foreign Firms*Reuters***OSAKA, Japan** — The president of Kansai International Airport Co. berated foreign companies Monday for not trying hard enough to win contracts for the \$3 billion construction project, which is a source of friction between Japan and its trading partners.

"Whether Americans are putting enough effort into entering the Japanese market" is "doubtful," Yoshiro Takeuchi said in an interview.

Several countries, led by the United States, have charged the government and the airport authority with shutting them out of the lucrative project near Osaka, which is to be completed in 1993.

But Mr. Takeuchi said it was up to foreign companies to adapt to

Japanese markets. "They should not expect Japan to change to meet their demands," he said.

"The Japanese put forth a lot of effort in trying to export," he added. "They strive hard to overcome language, culture and other differences."

"But foreign companies did not seem to put as much effort into penetrating the Japanese market," he said. "Some even believed they could enter the local construction market without speaking Japanese."

Mr. Takeuchi last week rejected U.S. calls for changes in the design teams and bidding procedures for the project.

"Unlike American firms, we have a large number of in-house

engineers," he told S. Bruce Smart Jr., the U.S. undersecretary for commerce, in a letter. "We therefore do not intend to include foreign or any other outside firms in our design teams."

In the interview, Mr. Takeuchi said that English or German-speaking technicians could not succeed if they could not speak to Japanese construction workers.

"Some foreign people have splendid ideas, but with loopholes," he added. "At present, I think the Japanese are comparatively skilled."

But Mr. Takeuchi said that foreign companies would be given a fair chance to win construction contracts for the airport.

"If the foreign companies are intelligent, offer good products at low prices, we will welcome them," he said. "It's silly to limit the work to Japanese firms."

Earlier this month, Kansai International awarded consultancy contracts to airport authorities from Britain, France, West Germany and the United States.

American Brands In \$600 Million Offer for ACCO*Reuters***OLD GREENWICH, Connecticut** — American Brands Inc. said Monday that it has agreed to acquire ACCO World Corp., a maker of office products, in a transaction valued at more than \$600 million.

Under the agreement, American Brands will soon begin a tender offer of \$29 for each ACCO share. The announcement pushed up ACCO shares by \$4.875 on the New York Stock Exchange, to \$28.375.

American Brands, a leading producer of cigarettes and liquor with its own office products subsidiary, said the tender offer is conditional upon selling the stapling product line of ACCO and two minor office product lines of American Brands.

the outside, and there is a stockholding relationship, but the management is completely separate."

A U.S. deputy assistant defense secretary, Stephen D. Bryen, said last week that the Defense Department had stopped approving new military contracts with Toshiba Corp. because of Toshiba Machine's alleged transfer of advanced

submarine technology to the Soviet Union in 1983 and 1984.

The ban could cost the parent company hundreds of millions of dollars in electronics business with the Pentagon.

Toshiba Corp., which owns 50 percent of Toshiba Machine, has already forced Toshiba Machine's president and four other senior officials to resign.

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**DISTRIBUTION OF FREE STOCK PURCHASE WARRANTS**

On June 22, 1987, the Board of Directors of Accor voted to distribute to Company shareholders one free subscription warrant for each share held. Ten warrants give right to subscribe to one ACCOR share at the price of F.Fr. 625 between November 30, 1989 and F.Fr. 700 between December 1, 1989 and November 30, 1990. The warrants have received the visa (No. 87-218) of the French Stock Exchange Commission (Commission des Opérations de Bourse) and will be listed on the Paris Bourse.

Until November 30, 1990, new shareholders may exercise the warrants held or through conversion of the French Francs 1983 convertible debentures or the U.S. dollar 1984 convertible debentures are eligible for the free warrant.

After November 30, 1990, the rates of conversion of debentures into shares will be adjusted.

This free issue is a consequence of the recent strengthening of Accor's shareholders' equity and should give both actual and potential shareholders a better opportunity to participate in Accor's expansion, while providing additional funds to finance the company's growth.

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But now, a growing number of individuals are also discovering how the same capabilities can help them take advantage of opportunities in the world's financial markets.

To develop their own customized strategies, all our clients can draw on a world-scale research effort. It encompasses equities, fixed income and money market securities, Eurobonds, currencies and economic trends generally.

Because Goldman Sachs is a member of the major exchanges in the U.S., the U.K. and Japan, we can execute your strategy globally. We also assist in developing sophisticated hedging strategies to manage risk and enhance portfolio performance.

If you are an individual investor, and the value of your portfolio is equivalent to \$1 million or more, we'd like to introduce ourselves with a copy of our *Monthly Research Focus*.

Contact:
William Landreth, Partner
Goldman Sachs
International Corp.
5 Old Bailey
London EC4M 7AH.
Tel: 01-489-2205.

**U.K. Airport Authority Stock To Be Sold on a Tender Basis***The Associated Press***LONDON** — The government launched its privatization of Britain's state-owned airports on Monday with a novel twist of giving investors the opportunity to make individual tender offers for some of the stock.

The sale of BAA, formerly known as British Airports Authority, is expected to raise more than £1 billion, or about \$1.61 billion.

It is the latest in Prime Minister Margaret Thatcher's program to sell off billions of dollars worth of state-owned assets and to get more shares into the hands of the British public. Most recently, the government sold Rolls-Royce, the airplane engine maker, and British Airways.

In the latest sale, the government

shares to the public and institutional investors.

Most of that stock is to be sold at a fixed price, which is to be announced on July 8. This is how previous privatizations have been structured.

But this time up to a quarter of the shares will be set aside for sale through tender offers by institutional investors and individuals.

These shares will be sold to the highest bidder who must offer to pay at least the same amount as the fixed price.

The government will set a secret cut-off price and will accept in full applications above that price.

Previous sales have been many

times oversubscribed and investors haven't been able to buy as many shares as they have wanted.

The Agenda includes, *inter alia*, a proposal to amend the Articles of Incorporation of the Company.

The Agenda, the proposed amendments and the Annual Report for 1986 may be obtained from the offices of the Company or from the Paying Agent mentioned hereinunder.

Shareholders will be admitted to the meeting on presentation of their certificates or of vouchers, which may be obtained from the Paying Agent against delivery of certificates on or before 10th July, 1987.

Willemsstad, 23rd June, 1987.

INTIMIS MANAGEMENT COMPANY N.V.

Paying Agent:

Pierson, Heldring & Pierson N.V.

Herengracht 214

Amsterdam

plans to offer a total of 500 million

shares.

22-6 324-1000 22-6 324-74-291

CURRENCY MARKETS

Dollar Rises Sharply in N.Y., Europe

Compiled by Our Staff From Dispatchers
NEW YORK — The dollar surged higher Monday, making dramatic advances against the mark and yen as weakness in the British pound spilled into most major currencies. Gold and silver fell sharply.

Dealers said that the dollar's resilience of recent days reinforced speculation that it has found a near-term bottom. But they attributed the rise Monday largely to technical factors, including programmed buying.

In New York, the dollar closed at 1,8470 Deutsche marks, up from 1,8293 on Friday; at 146.20 yen, up from 144.80; at 1,5350 Swiss francs, up from 1,5205; and at 6,1565 French francs, up from 6,1055.

It was also higher against the pound, which closed at 51.5875, down more than 2 cents from \$1.6110 on Friday.

"The dollar made a very strong move," said Christopher Bourdin, vice president in Bank of America's corporate foreign-exchange unit.

"Most people in the New York market were expecting the dollar to get stronger this week, but it all

London Dollar Rates	AMer.	U.K.	Fr.
Dollar/mark	1,8470	1,8293	
Pound/dollar	1,5970	1,4707	
Japanese yen	146.20	144.80	
Swiss franc	6,1565	6,1055	
French franc	4,3325	4,0225	
Source: Reuters			

seems to have happened in on day."

He said a rumor that Saudi Arabia was diversifying its portfolio by selling yen- and mark-denominated bonds and getting into dollars encouraged traders to buy dollars.

Another supportive factor, he said, is that dollar-linked commodity prices, especially oil, have been strong lately. Since customers purchase oil with U.S. dollars, rising oil prices signal stronger dollar demand.

Republic Bank in New York closed cash gold at \$437.50 an ounce, down \$7.50 from \$445.00 Friday. Silver plunged to \$6.73 an ounce from \$7.18 on the cash market.

In Zurich, the dollar closed at 1,5277 Swiss francs, up from 1,5202 on Friday. (UPI, Reuters)

value against the mark since March.

In London, the dollar closed at 1,8407 DM, up from 1,8305 on Friday; at 145.85 yen, up from 145.05; and at 6,1325 French francs, up from 6,1025.

The dollar was also higher against the pound, which closed at \$1,5950, more than 2 cents down from \$1,6170 on Friday, and its lowest point since mid-March.

"It's getting more though the market believes the dollar has bottomed out," said the top trader at one bank.

"The market is more fundamentally disposed toward the dollar as well as supported by technical considerations," he added.

The pound fell fast enough to prompt the Bank of England to step in and buy sterling in a bid to steady it, some dealers reported.

Earlier in Europe, the dollar was flat in Frankfurt at 1,5335 DM, up from 1,8238 on Friday; and in Paris at 6,1235 French francs, up from 6,0940.

In Zurich, the dollar closed at 1,5277 Swiss francs, up from 1,5202 on Friday. (UPI, Reuters)

Yeutter Says Export Problem No Longer Dollar

United Press International

WASHINGTON — The U.S. trade representative, Clayton K. Yeutter, said Monday that if exports do not increase now that the weak dollar has made American products cheaper, quality, service or marketing skills may be to blame.

Speaking at an American Stock Exchange conference, he said that "from a price standpoint, we are tremendously competitive in most things U.S. businesses sell overseas. "So if our exports do not begin to accelerate," he said, then "the exporters of this country must search their souls for other explanations because it's not price that will preclude those exports from moving up."

"It must then be quality or service or international marketing skills," he said, adding, "we must begin to focus on those elements of the export-import process." he said.

(Continued from first finance page)
quisitions in the United States and Britain, though he says this could be a single \$2 billion deal or a string of \$100 million purchases. Mr. Keswick says he would like a major U.S. presence, and he adds that Mr. Powers might want to return to the United States in five years or so and run the American wing of Jardine.

But familiarity with the U.S. market was not the reason for choosing Mr. Powers. Indeed, his nationality may even have worked against him a little, in the clubby world of British-run Hong Kong companies. His open style has reflected some feathers here, he acknowledged. "The business style is different," he said. "The Brits are much more civilized than Americans."

And though Mr. Powers has joined the Jockey Club and he and his wife have entertained at their home on the Peaks, their presence in Hong Kong's social circuit is subdued. "I like Hong Kong," he said, "but I work very long hours and I've very committed to my job."

But if Mr. Powers has not always displayed enthusiasm for drinking port, no one doubts his skill in law and finance. Those talents seem to have been key to his swift rise, after arriving at Jardine in April 1986 as "chief strategist." The conglomerate was then in the process of slimming down — after some disastrous investments in real estate, shipping and oil.

After two years there, Mr. Powers accepted a job as an attorney with the Ford Foundation. However, almost immediately he was put in charge of a large investment portfolio that included venture capital and real estate.

One of his first acts was to foreclose on two big real estate developments in the belief that the foundation could run them better than the developers. Colleagues noticed that.

Mr. Powers was at the Ford Foundation when James D. Wolfensohn, an Australian-born financier, called him. Mr. Wolfensohn was planning to set up a New York investment bank, and had heard about Mr. Powers from a Debevoise & Plimpton partner. So after four years at the foundation, Mr. Powers joined Mr. Wolfensohn, becoming his chief assistant at James D. Wolfensohn Inc.

Soon after the firm opened, a man named Simon Kewick called. He was in the New York office of the Couder Brothers law firm, and wanted to know if Mr. Powers could help structure a deal. With characteristic bluntness, Mr. Powers asked the tai-pan: "This is a terrible question, but who are you?"

A relationship grew up between the two. Mr. Powers handled more and more Jardine business, including a complex sale of sugar interests in Hawaii that included a leveraged buyout with commercial and government financing. "That was an extraordinary piece of work," Mr. Wolfensohn recalled.

Indeed, it was one of the accomplishments that led Mr. Kewick at the end of 1985 to ask Mr. Powers if he would like to come to work for Jardine. Mr. Powers' initial response was that he was happy at Wolfensohn and that his wife, Pauline, had a job that kept her in New York.

Mr. Keswick persisted, and Mr. Powers finally arrived in April of last year, with a seat on the board and a mandate to direct financial strategy. Paula Powers, who was teaching at Columbia Law School, was willing to move to Hong Kong, and both parents thought it was the ideal time for son, Jeremy, to live abroad. Mr. Powers has so far not studied Chinese.

As the new tai-pan, Mr. Powers will face a number of challenges. Despite diversification, a large share of the company's assets remain in Hong Kong. The property market and business climate here are volatile, even though Beijing has promised that it will allow Hong Kong to maintain its capital-ist way of life for at least 50 years after 1997.

Then there is rising competition in Asia: local entrepreneurs who in the last two decades have built their own conglomerates to challenge British interests. In Hong Kong, such Chinese entrepreneurs as Sir Y.K. Pao and Li Ka-shing have often outmaneuvered Jardine in the last decade.

These entrepreneurs are potential threats, for Jardine could become an acquisition target. One reason they have gained on British interests is that they know the market better — and that could be all the more true when Jardine is run by a man who is a newcomer to the region.

BANKS: 'Buffer' Currency Fund

(Continued from first finance page)
commercial bank, Dai-ichi Kangyo Bank of Japan, called the suggestion a "workable idea."

For the past month, Japanese banks have been under orders to report their foreign exchange positions daily to the authorities.

However, Mr. Gyohten said that "there was no intention to restrict activities in the market."

Rather, he said, excessive volatility in exchange rates drove the Japanese government to "ask" financial institutions to take the long-term implications of their actions into account.

Karl Otto Pöhl, president of the West German central bank, or Bundesbank, also called Mr. Elkington's proposal "a good idea."

Koji Takahashi, senior managing director of the world's largest

Bank of Japan, called the suggestion a "workable idea."

Some banks, he said, have total liberty in the positions they may take in the foreign exchange market. Others, such as most West European banks, are limited by banking supervisors in the size of the exposure they can undertake.

"The directives should be the same for all," he said.

At the same time, he added, "we have seen overtrading, which must be avoided. Otherwise, we'll all get swamped with new restrictions. Either we all behave, or we are all losers."

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SPORTS

In Paris,
Au-Delà
Du Rugby

By Samuel Abe
International Herald Tribune
PARIS — Le quarterback backpedaled, turned and tried to hand off le ballon to un running, unaware that le cornerback was coming fast. "Attention au blitz," some spectators screamed, but it was too late and le quarterback was flat on the ground, sacked.

In other words, American football is making inroads in France and in much of the rest of western Europe.

As proof, the Paris Castors, or Beavers, routed the Paris Jets, 75-10, on Sunday in Casque d'Or VI, or what was billed as Le Super Bowl Français. Mais non, it wasn't exactement Super Bowl XXI in Pasadena, California, but it was by far the biggest event in the short life of football américain in France.

Some of the razzle-dazzle along the sidelines was familiar to those who saw the National Football League title game in January. There were majorettes too, and a musical salute and a cheering squad known as Les Pom Pom Girls. However, the crowd at Jean Bouin Stadium in Paris was somewhat smaller, 2,500 or 3,000 instead of the 101,000 who beat the Rose Bowl and the 120 million or so who watched on international television as the New York Giants beat the Denver Broncos, 35-20.

Tickets cost 50 francs (about \$8) instead of the face price of \$75 in California.

Nor did the winners' prize money total in the hundreds of thousands of dollars. The Castors, the favorites after they beat the Blue Angels of Joinville-le-Pont in the semifinals, won 20,000 francs' worth of football equipment. The Jets, who beat the Argonauts of Aix-en-Provence to reach the title game, went home empty-handed as well as humiliated.

They could console themselves, though, in thinking that the game had been another step forward in the growth of the sport across Europe. Since early this decade, leagues have been formed and are growing in England, Italy, Finland, the Netherlands, Belgium, West Germany and France. In England, where the London Ravens were the sole football team in 1983, there are now more than



Harry Carson, center, with Brian Sipe behind him are cheered by the French players.

200 registered teams, 146 of them in the senior or adult category.

A crowd of 80,000 filled Wembley Stadium in London last August to watch the Chicago Bears beat the Dallas Cowboys in an NFL exhibition game. The Denver Broncos are scheduled to play the Los Angeles Rams in another pre-season game at Wembley on Aug. 9 and most of the seats have already been sold.

With a bit of luck and publicity, the organizers of the 29-team French championship league hope for the same surge of interest to lift their sport out of the status of simply a curiosity.

The French organizers had some publicity, as the U.S. Embassy in Paris and the National Football League Players Association combined to provide a week-long visit by Harry Carson, the New York Giants all-pro linebacker, and Brian Sipe, the former quarterback for the Cleveland Browns and New Jersey Generals.

Both men have been interviewed extensively by French magazines and television, which this year began showing NFL games in edited, week-old films. It also showed the Super Bowl for the first time.

Carson and Sipe have also attended news conferences, coaching clinics and autograph sessions and the Giants' linebacker even got to kick off a ceremonial ball for the Casque d'Or that year. We slipped a little last year, losing in the quarterfinals, but here we are again," he spoke before the blowout on the field.

"On the field, we have no problems," he said proudly. "We were formed in 1984, played our first games in 1985 and won the Casque d'Or that same year. We slipped a little last year, losing in the quarterfinals, but here we are again," he spoke before the blowout on the field.

Wepre credits an active recruiting policy for his team's march to the big game. "We look for players everywhere, in the streets, the office, even in the subway. First we look at his size, then we try to see if he can run.

"Off the field, it takes a lot of work to keep the team going. All we play for are fun and pleasure. Nobody gets paid."

Still he predicts a shiny future for the game, especially if it catches on with school children, to whom football remains the European name for soccer.

"There is no advancing the ball

by kicking it ahead," sternly warned a guide to football américain distributed to spectators.

The level of play is somewhere between good U.S. high school and bad junior college," said Steven St. John, a 24-year-old safety for the Jets. A native Californian, he played defensive back and wide receiver for Santa Clara University before coming to Paris to become a model for fashion photography and television commercials.

"There are no tricky moves in the French game," St. John continued. "It's standard plays, patterns and reverses. It's pretty easy for an American to fit in, especially somebody like who's played the game since I was 7 years old."

French teams are limited to five foreign players, with no more than two allowed on the field, *éternel*, at the same time. To help further the development of French players, foreigners are banned as quarterbacks, as they are in many other European leagues. This rule inspires long debate over a fine point: If a foreigner is a running back, can he legally throw an option pass?

"We're still feeling our way with many of the rules, trying to get people to understand and agree on them," admitted Stephan Wepre, 27, the president and starring center of the Jets. Another problem is football's second-cousinhood to rugby, a popular game in France, in which the team with the ball can move it downfield with a kick that either team can field.

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Wepre credits an active recruiting policy for his team's march to the big game. "We look for players everywhere, in the streets, the office, even in the subway. First we look at his size, then we try to see if he can run.

"Off the field, it takes a lot of work to keep the team going. All we play for are fun and pleasure. Nobody gets paid."

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ART BUCHWALD

No Credit for Adultery

WASHINGTON — "Washington School of Applied Ethics and Morality. Can we help you?"

"My son is coming to Washington this summer and I would like to know if you are giving any courses in hypocrisy, betrayal and sleaze?"

"Yes, we have an excellent curriculum that will lead either to a bachelor's degree in stonewalling or a master's degree in perjury."

"Can you give me some idea of what you're offering?"

"We have a popular class in lying. We hold moot congressional hearings in which the student is challenged to wriggle out of answering any compromising questions."

"How does he do that?"

"By using the Elliott Abrams defense. When asked a question the student is taught to reply something like, 'It probably happened but I don't remember it, or I don't remember it but if you say it took place I'll accept your word."

"Is Abrams the instructor?"

"No, he has nothing to do with the school. But the students look on him as a role model."

"It doesn't surprise me. He's everybody's role model."



Buchwald

Fragonard Sold For \$300,000

Agency France-Press

MONACO — A Fragonard landscape showing a watering place was sold to a Swiss buyer for \$4,834,000 francs (about \$300,000) Saturday as part of a three-day sale of paintings, Italian drawings, furniture and china staged here by Sotheby's and the Monaco SBM firm.

Another buyer paid 2,331,000 francs, five times the estimate, for Michel Garnier's "Merveilleux sous les Arcades du Palais Royal."

The Michel Gaud collection of Italian drawings from the 14th to the 17th centuries made a total of 12,870,000 francs (\$2.1 million). Some 90 architectural drawings were knocked down for 3,270,000 francs.

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